

# **Ivy Tech State College**

## **Central Indiana**



**1999-2000 Bulletin**





Ivy Tech State College  
Central Indiana  
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Office of Publications  
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Ivy Tech State College offers degree credit programs, courses, career development, and technical certificates. The College provides open admission, counseling, and placement services for all persons, regardless of race, color, creed, religion, gender, limited English proficiency, national origin, physical or mental handicap, limited English comprehension, age, or veteran status.

This catalog is intended to supply accurate information to the reader. From time to time, certain information may be changed.

The College may revise any matter described in this catalog at any time without publishing a revised version of the catalog. Information which appears to apply to a particular student should be verified by the Registrar's Office. This publication and its provisions are not in any way a contract between the student and Ivy Tech State College.



#### Spring 2000

January 3-7: Late registration  
January 10: First day of classes  
March 6-12: Spring Break  
April 10-14: Early registration for Summer  
May 7: Last day of classes

#### Summer 2000

May 18-19: Late registration  
May 22: First day of classes  
May 29: Memorial Day  
July 4: Holiday  
July 10-14: Early registration for Fall  
August 6: Last day of classes

#### Fall 2000

August 14-18: Late registration  
August 21: First day of classes  
September 4: Labor Day  
November 13-17: Early registration for Spring  
Nov. 21-22: Fall Break  
December 17: Last day of classes  
December 18-January 1: Winter break

#### Spring 2001

January 2-5: Late registration  
January 8: First day of classes  
March 5-9: Spring Break  
April 9-12: Early registration for Summer  
May 6: Last day of classes



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# Introduction

In 1963, the Indiana General Assembly established Ivy Tech State College as Indiana's first statewide vocational technical college by appropriating \$50,000 for its development. Following appointment of a State Board of Trustees, a president was named and the first training program was established in 1965. Later amendments to the enabling legislation authorized the College's present regional structure to provide accessible educational opportunities to all Indiana citizens. Thirteen regional boards of trustees were appointed, and 13 regions were chartered between 1966 and 1969.

Ivy Tech State College is a public, statewide, open-access, community-based college. The College's mission is to enable individuals to develop to their fullest potential and to support the economic development of Indiana. Ivy Tech State College prepares residents of Indiana with the general and technical education needed for successful careers or for continuation in further higher education. The College provides courses, certificate and degree programs, counseling and related services, technical assistance, and community service to individuals, communities, and businesses and industries across the state. Ivy Tech State College promotes educational mobility through partnerships with local schools and other higher education institutions.

In 1987, the College began offering transferable degrees in a limited number of fields of study.

More recently, some of Ivy Tech's general education courses became transferable to the state's and out-of-state public universities and independent (private) colleges and universities. Transferability of two-year degrees also increased as the College entered into more articulation agreements in which courses in Ivy Tech's two-year programs transfer to a university and count toward a four-year degree. (See page 8 for transfer program information.)

## Regional History

Ivy Tech State College-Central Indiana, one of the College's 13 regions, opened its doors in 1966 to serve residents of Marion, Morgan, Hancock, Johnson, Shelby, Boone, Hendricks, and Hamilton counties. In 1966, the College enrolled 367 students in three technical programs; in Fall 1998 the College enrolled more than 7,400 students in 22 areas of study.

Ivy Tech-Central Indiana offers instruction in four areas: Business, Technology, Health and Human Services, and General Education.

The College's regional office of Business and Industry Training works closely with Indiana businesses to provide customized training and retraining in response to specific company needs. These training programs are available on campus or in the workplace.

Ivy Tech graduates work in such diverse fields as paralegal, accounting, medical technologies, computer-aided design

(CAD) and computer-aided manufacturing (CAM) or computer-integrated manufacturing (CIM), culinary arts, public safety, and computer information systems. Through its apprenticeship training program, the College offers individuals the opportunity to earn associate degrees as well as journeyman's cards. Through its Tech Prep program, Ivy Tech students can earn up to a semester's credit toward a two-year Ivy Tech degree while still in high school.

The College offers instruction in business, health and human services, technologies, and visual technologies in 28 program areas and an even larger number of specialties. In addition, the College is a major supplier of basic skills education programs, which prepare individuals for successful college work.

## Regional Facilities

The Ivy Tech State College-Central Indiana main campus is located north of downtown Indianapolis at One West 26th Street, at the corner of Fall Creek Parkway and North Meridian Street. The main campus is comprised of the North Meridian Center, Technology Center, North Illinois Center, and the Automotive Technology Center. In addition, the College holds selected classes in Avon, Shelbyville, Greenfield, Noblesville, Lawrence, Lebanon, Mooresville, Carmel, Walker Career Center, Ben Davis High School, Pike High School, and the Meadows community.



# Program Information

Ivy Tech State College programs are designed to meet the needs of the student population, accommodating those who wish to enroll in a few classes as well as those who prefer a full program. Credit programs normally culminate in the Associate of Science degree, the Associate of Applied Science degree or the Technical Certificate. The three instructional divisions are Business and Technology, Health and Human Services, and General Education.

In addition to program and custom-designed courses, Ivy Tech State College offers basic skills instruction for students who require academic support and/or study skills to assist them in successful completion of a regular program of study. Enrollment in certain basic skills courses is designed to prepare the student for the GED examination.

## **Associate of Applied Science (AAS) Degree**

Associate of Applied Science degree programs prepare students for career mobility within occupational clusters. The programs offer education in recognized specialties with emphasis on analysis, synthesis, and evaluation. The program content, which is approximately 75 percent technical and 25 percent general education, provides both depth and breadth in conceptual and manipulative skills. The general education courses, offered in the areas of communications, humanities, mathematics, life and physical sciences, and social sciences, equip stu-

dents with the life skills they need to be fully functioning, contributing members of society. Ask for details from the Admissions Office staff on transfer opportunities. See page 10 for complete transfer opportunities.

## **Associate of Science (AS) Degree Programs**

Associate of Science degree programs prepare students for careers and also enable students who have an interest and ability to transfer Ivy Tech State College credits to cooperating four-year institutions. These programs emphasize cognitive skills intended as pre-baccalaureate study and provide courses equivalent to those prescribed in the lower division of the receiving four-year college or university.

## **Technical Certificate (TC) Programs**

The Technical Certificate programs provide training in conceptual and manipulative skills for specific occupations. Each program contains a sequence of required courses in a recognized specialty within one of the technologies taught at the College. The program content is designed to develop competency in the comprehension of general and technical skills in that specialty.

## **Career Development Certificates (CDC)**

Ivy Tech State College provides short-term programs for individuals who desire to develop competencies in a specific area. These programs are less than 32 semester credits in length. Instruction is delivered through methods that include regular courses and specifically-designed

courses. Many of these courses are based on a sequence of learning experiences determined by a certifying state or national association or organization. Completion of certain short-term programs qualifies students to sit for certification examinations. The number and types of short-term programs vary.

## **Foundation for Academic Program**

Ivy Tech State College offers a foundation of academic programs to assist students in successfully accomplishing their educational goals.

In addition to foundation courses in languages, mathematics, and study skills, available services include academic assessment, career assessment and counseling, tutoring, and other academic assistance. The need for these services may be identified at the time of admissions, or a student may access services upon encountering academic difficulty during a course of study. Instructors and laboratory technicians provide supplemental instruction in math, English, science, and study skills. Ivy Tech State College students preparing for the GED examination may take a practice test and receive academic counseling.

The Computer Assisted Instruction (CAI) Lab offers a variety of Macintosh and IBM personal computers, along with a variety of software in support of foundation courses.

### **Center for Workforce Development**

The Center is responsible for three areas in the College: Business and Industry Training, Extended Services and Continuing Education.

Ivy Tech State College offers specialized training services for business and industry. The Office of Business and Industry Training develops custom-designed programs and services to meet the training needs of local businesses. The office works with business and industry, trade unions, and public and community economic development groups to assess training needs and to deliver training when and where it is needed, often in-plant. Call (317) 921-4775 for more information.

### **Weekend College**

Weekend College is Ivy Tech State College's way of providing an educational opportunity to individuals who are unable to attend during regular weekday or evening hours.

Weekend College offers a wide selection of credit courses and continuing education programs.

### **Campus Locations**

#### **Avon High School**

7199 E. US Highway 36  
921-4461 or 1-800-624-7584

#### **Ben Davis High School**

1200 N. Girls School Rd.  
Indianapolis  
921-4461 or 241-0200

#### **Carmel High School**

520 E. Main St.  
921-4461 or 846-0361

#### **Greenfield Central High School**

810 N. Broadway  
921-4461 or 1-800-624-7584  
After 6:00 p.m. call 462-7984

#### **Indianapolis**

One West 26th Street  
Indianapolis  
921-4461 or 1-800-624-7584

#### **Lawrence (three locations)**

\*Belzer Middle School  
7500 E. 56th St.  
\*Lawrence North High School (LN)  
7802 Hague Rd.

#### **\*Fort Harrison (FH)**

5749 Wheeler Rd.  
Call 377-3424 or 921-4461  
or 1-800-624-7584

#### **Lebanon High School**

510 Essex Drive  
482-6806 or 921-4461 or  
1-800-624-7584

#### **Meadows Area College in the Community**

Phoenix Apts - New Life Ctr.  
4004 Meadows Dr.  
Indianapolis  
921-4461 or 1-800-624-7584

#### **Mooresville High School**

550 N. Indiana  
921-4461

#### **Noblesville High School**

18111 Cumberland Rd.  
921-4461 or 773-4680

#### **Perry Meridian Middle School**

8040 S Meridian St.  
921-4461 or 1-800-624-7584

#### **Pike High School**

6701 Zionsville Rd.  
Indianapolis  
921-4461

#### **Shelbyville**

Blue River Career Center  
801 St. Joseph St.  
392-3243 or 1-800-624-7584

#### **Walker Career Center**

Warren Central High School  
9651 East 21st Street  
Indianapolis  
532-6150

## Off-Campus Classes

Ivy Tech State College - Central Indiana encompasses Marion County and the seven surrounding counties. For a complete listing of off-campus site locations, see page 4.

### BOONE

Lebanon High School



Noblesville High School



Carmel High School



### HENDRICKS

Avon High School



### MARION

Lawrence •

*Indianapolis*

- Ben Davis High School
- Meadows
- Perry Meridian Middle S.
- Pike High School
- Walker Career Center

### HANCOCK

Greenfield Central  
High School



### MORGAN

Mooresville High School



### JOHNSON

### SHELBYVILLE

Shelbyville



# Associate of Science, Associate of Applied Science, Technical Certificate

## Associate of Science Degree

Accounting Technology  
Associate in Science Nursing (ASN)  
Business Administration

Child Development  
Electronics Technology  
Occupational Therapy Assistant

Office Administration Technology  
Human Services

## Associate of Applied Science Degree

Accounting Technology  
Automotive Technology  
Automotive Service Specialty  
ASSET-Ford Motor Company  
ASEP-General Motors  
T-TEN-Toyota  
Business Administration  
Management Specialty  
Marketing Specialty  
Computer Information Systems  
Programmer Analyst Specialty  
PC Support and Administration  
Specialty  
Networking Specialty  
Design Technology  
Architectural Specialty  
Civil Specialty  
Mechanical Specialty  
Graphics Specialty  
CAD/CAM

Electronics Technology  
Communications Specialty  
Industrial Specialty  
Hospitality Administration  
Baking and Pastry Arts Specialty  
Culinary Arts Specialty  
Hotel/Restaurant Administration  
Specialty  
Human Services Technology  
Generalist Specialty  
Substance Abuse Specialty  
Mental Health Specialty  
Industrial Technology  
Heating, Ventilation, and Air  
Conditioning Specialty  
Industrial Maintenance Specialty  
Machine Tool Specialty  
Medical Assistant  
Office Administration Technology  
Medical Specialty

Legal Specialty  
Software Specialty  
Office Administration Specialty  
Paralegal  
Public Safety Technology  
Environmental Management  
Specialty  
Fire Science Specialty  
Hazardous Materials Specialty  
Public Administration Specialty  
Radiologic Technology  
Respiratory Care Technology  
Surgical Technology  
Visual Communications  
(pending approval)  
Graphic Design  
Multimedia

## Technical Certificate

Administrative Office Technology  
Medical Specialty  
Administrative Specialty  
Child Development  
Design Technology  
General Technical Studies  
Business  
Technology  
Health and Human Services

Industrial Technology  
Heating, Ventilation, and Air  
Conditioning Specialty  
Machine Tool Specialty  
Industrial Maintenance Specialty

Medical Assistant  
Clinical Specialty  
Administrative Specialty  
Practical Nursing

## Career Certificate

Accounting  
Automotive Technology  
Electrical Specialist  
Engine Performance Specialist  
Air Conditioning Specialist  
Powertrain Specialist  
Supervision/Management  
Suspension and Brake Technician  
Business Administration-Management

Computer Information Systems  
Dietary Management  
Medical Receptionist  
Office Administration Technology  
Design Technology  
Architectural/Civil  
Mechanical  
Visual Communications  
Graphic Design  
Multimedia



# Admissions Information

Students who are high school graduates, have a high school equivalency degree (GED), or those who demonstrate "ability to benefit" are eligible for admission to Ivy Tech State College.

To enroll in an Ivy Tech program/specialty:

1. Fill out an Ivy Tech State College application for Admission\*. Mail or hand deliver the completed application to the College. There is no application fee.

\*Information required on the application concerning race, age, color, national origin, gender, marital status, or physical disabilities will be used for reporting purposes only. Information gathered on physical disabilities will provide the College information regarding accommodations or adjustments that may be required. This information will be kept confidential.

2. Have your high school and/or college transcripts sent directly to Ivy Tech State College, Registrar's Office. With a GED, the applicant should request an official copy be sent or bring a copy of the original transcript of GED scores to the Registrar's Office.
3. All applicants are required to attend a Success Seminar which includes orientation, assessment testing (ASSET), and academic advising.

Some admitted students may be required to participate in pre-technical/basic skills advancement courses. All placements are based on a review of ASSET placement test scores and high school (or GED) and college transcripts.

Pre-technical courses enable the student to develop or strengthen important academic skills by taking prescribed classes. A pre-technical class is designed to enhance the student's academic success and is based on the student's goal, a review of placement test scores, high school and/or college transcripts and an academic advising session.

If you wish to earn an associate's degree or technical certificate, you must complete the entire admission process. Acceptance is based on the policy "first-come, first-qualified, first-served."

If you are interested in taking a course only and

you meet the course prerequisites (if any), you are ready to enroll.

## Readmission

Should a student's course of study at Ivy Tech State College be interrupted during a semester, an official drop form must be completed or an F grade will be assigned. If a student is withdrawing from classes or not re-enrolling for classes, the student may request readmission at a later date. This is accomplished by contacting the Admissions and Freshman Academic Advising offices. Information on eligibility for financial assistance will be available from the Financial Assistance Office to returning students.

## Limited Admission Enrollment

Sometimes the number of students admitted and enrolled in programs and/or courses is limited by College resources or facilities, including available lab equipment or the number of available health program clinical work settings. The Admissions and Freshman Academic Advising offices should be contacted regarding the status of different programs.

## Admission Procedures and Support Documents

Ivy Tech State College has counselors available to assist students in selecting a course of study.

For degree-seeking students:

1. A complete student admission data form, which establishes records in the Registrar's Office, is required.
2. Proof of high school graduation or GED completion is normally required for admission into a program leading to a certificate or a degree. The high school graduate or individual who has the GED must request that the secondary school or

\*Students who have an associate or higher degree from a regionally accredited institution and furnish an official transcript of that degree do not need to furnish GED scores or high school transcript. Students with less than an associate degree who furnish an official college transcript from a regionally accredited college showing high school attendance and graduation date do not need to furnish a high school transcript.

testing center send an official copy of the transcript or GED certification to the Office of the Registrar. Applicants to Associate of Science degrees and Health and Human Services programs must have their high school transcript or GED certification scores on file in the Registrar's Office before the start of the first semester. Applicants for all other programs must have the high school transcript or GED certification scores submitted no later than the end of the first semester of attendance.\*

- a. Students whose high school transcripts are not in English must have their high school transcripts translated into English and verified by an appropriate outside agency. All students who received their high school education outside of the U.S. and its territories must have their transcripts evaluated and verified by an appropriate outside agency.
- b. Please pick up that evaluation form from the Admissions Office.
3. The College requires that program-declared students either provide acceptable standardized test scores or participate in the College academic diagnostic testing program.
4. Should a student wish to transfer credits to Ivy Tech State College from another college, the student must have an official copy of the grade transcript forwarded from that institution to Ivy Tech State College. This should be done at the same time as application to the college.
5. The College requires a health examination for certain programs.

### **Success Seminar**

All applicants for Admission who are seeking a certificate or degree at Ivy Tech State College must complete an academic assessment. This assessment may be completed via several formats.

New college students may attend a Success Seminar which includes the ASSET test. Or students may schedule a COMPASS test which is offered on the computer. Students who have completed the ACT or SAT may wish to have those scores evaluated before scheduling a placement test.

Transfer students who have successfully completed general education classes or who have obtained an associate degree or higher should have their official

transcripts evaluated before scheduling an assessment test.

### **Transferring to Ivy Tech**

The College encourages students who have previously attended other recognized colleges and universities, adult education programs and high school vocational programs to forward transcripts to Ivy Tech by the midpoint of the first semester of enrollment or re-enrollment for consideration for transfer of credit and/or advanced placement. Students are responsible for providing pertinent course descriptions and/or copies of the college catalog(s) if further documentation is needed to facilitate the review. The College reserves the right to refuse admission or to accept conditionally those students who have been dismissed for disciplinary reasons from other colleges or universities. In respect to transfer credits from a foreign institution, all students who received education outside of the U.S. and its territories must have their transcripts evaluated and verified by an appropriate outside agency.

### **Transferring to Other Colleges**

It is the right and responsibility of the receiving institution to decide whether to accept credits from another institution. The College has articulation agreements with many four-year institutions which enable students to transfer some or all of the Ivy Tech credits, depending upon the program.

## Transfer Opportunities

### ***Any Ivy Tech Two-Year Program***

Indiana Wesleyan University  
Alabama State University  
Indiana University-Purdue University  
at Indianapolis (IUPUI)  
Northwestern University

### ***Accounting***

Ball State University  
Bethel College  
Ferris State University  
Indiana State University  
Indiana University-Purdue University  
at Indianapolis (IUPUI)  
Marian College  
Martin University  
Northwood University  
Oakland City University  
Robert Morris College  
Saint Mary of the Woods  
Sullivan College  
Tri-State University  
University of Indianapolis

### ***Associate of Science in Nursing***

Ball State University  
Bethel College  
Ferris State University  
Indiana University School of Nursing  
Marian College  
Oakland City University  
University of Southern Indiana

### ***Automotive Service Technology***

Embry-Riddle Aeronautical  
University  
Ferris State University  
Indiana State University  
Oakland City University  
Tri-State University

### ***Business Administration***

Ball State University  
Bethel College  
Ferris State University  
Indiana State University  
Northwood University  
Oakland City University  
Marian College  
Martin University  
Robert Morris College  
Saint Mary of the Woods  
Sullivan College  
Tri-State University  
University of Indianapolis

### ***Child Development***

Ferris State University  
Goshen College

Martin University  
Oakland City University  
Saint Mary of the Woods  
Tri-State University

### ***Computer Information Systems***

Ball State University  
Ferris State University  
Martin University  
Northwood University  
Oakland City University  
Robert Morris College  
Saint Mary of The Woods  
Sullivan College  
University of Indianapolis

### ***Design Technology***

Ball State University  
Embry-Riddle Aeronautical  
University  
Ferris State University  
Indiana State University  
Indiana University-Purdue University  
at Indianapolis (IUPUI)  
Oakland City University

### ***Electronics***

Embry-Riddle Aeronautical  
University  
Ferris State University  
Indiana State University  
Oakland City University  
Tri-State University

### ***General Studies***

Indiana University-Purdue University  
at Indianapolis (IUPUI)

### ***Hospitality Administration***

Ferris State University  
Oakland City University

### ***Human Services Technology***

Ferris State University  
Indiana State University  
Martin University  
Oakland City University  
University of Indianapolis

### ***Industrial Technology***

Embry-Riddle Aeronautical  
University  
Ferris State University  
Indiana University-Purdue University  
at Indianapolis  
Oakland City University

### ***Medical Assistant***

Ferris State University

Indiana State University  
Indiana University - Purdue  
University at Indianapolis (IUPUI)  
Oakland City University

### ***Office Administrative Technology***

Ferris State University  
Indiana University-Purdue University  
at Indianapolis (IUPUI)  
Martin University  
Northwood University  
Oakland City University  
Sullivan College  
Tri-State University  
University of Indianapolis

### ***Occupational Therapy***

Indiana University-Purdue University  
at Indianapolis (IUPUI)  
Oakland City University

### ***Paralegal Technology***

Ball State University  
Ferris State University  
Oakland City University  
Saint Mary of the Woods  
Tri-State University  
University of Indianapolis

### ***Public Safety Technology***

Embry-Riddle Aeronautical  
University  
Ferris State University  
Indiana University  
Oakland City University  
University of Cincinnati

### ***Radiologic Technology***

Ferris State University  
Indiana University-Purdue University  
at Indianapolis (IUPUI)  
Oakland City University  
Tri-State University

### ***Respiratory Care***

Indiana University-Purdue University  
at Indianapolis (IUPUI)  
Ferris State University  
Oakland City University  
Tri-State University

### ***Surgical Technology***

Ferris State University  
Indiana University-Purdue University  
at Indianapolis (IUPUI)  
Oakland City University  
Tri-State University

## **Tech Prep**

Ivy Tech developed a statewide Tech Prep associate degree program in 1993. The purpose of Ivy Tech's Tech Prep program model is to enable Indiana high school students to enter into and complete a post-secondary technical program to learn the skills necessary to succeed in the workforce. The purpose is achieved through three program objectives:

- Provide high school students with the information they need to prepare for college-level technical education, so students can enter directly into a technical program after high school, graduation, and to avoid the need for costly and time-consuming remedial coursework;
- Provide high school students with opportunities for achieving advanced standing, so students who take advantage of this opportunity can complete a technical associate degree program in less than two years of full-time study; and
- Provide opportunities for students to complete an enriched course of study, so qualified students can pursue an advanced technology curriculum.

## **Dual Enrollment**

Dual enrollment is a program which enables high school students to get a jump-start on their college career by allowing students to receive Ivy Tech credit for certified courses taught in the high school setting. In some cases, the credits earned in high school apply not only to the student's study at Ivy Tech, but also toward credits required by four year colleges for a bachelors degree in the 2+2+2 program. Students are accepted into the program upon recommendation by their teacher and completion of an Ivy Tech course application form. Contact the counselors' office for more details or call the Dual Enrollment Program Coordinator at (317) 921-4583.

## **Office of Disability Services**

College programs and facilities are designed to be accessible to students with a documented disability. The College has designated parking and special restroom facilities for the physically challenged. The Office of Disability Services assists students with a disability, including hearing impairments, physical disability, learning disabilities, and visual impairments. Staff members are available to work with students whose learning or physical disability may

impede progress in their studies at Ivy Tech. The types of services available include: academic, career, and personal counseling; tutorial sessions with a full-time resource instructor; adaptive testing; interpreters for the deaf and testing services; coordination of taped textbook services; adaptive equipment including telecommunication device for the deaf (TDD), Visual Tech, braille, "talking" calculator, tape recorders, large print reference books, etc.

Special Needs Services works with outside agencies as needed to provide additional resources for students.

Any student with a documented disability is urged to contact the Office of Disability Services at (317) 921-4908.

## **International Students**

International students must meet the College admission standards and certain other requirements. Students should request an international packet from the Admissions Office, which has all the details: Ivy Tech State College, Admissions Office, One West 26th Street, P.O. Box 1763, Indianapolis, Indiana 46206-1763. ATT: International Counselor.

Note: International students should apply for admission to Ivy Tech State College at least 90 days prior to the beginning of the term they wish to attend.

An international student must also provide proof of adequate financial support for College fees and living expenses for each year while attending the College. Please refer to the international packet.



# Financial Assistance

The purpose of Ivy Tech State College's financial assistance program is to provide financial assistance to those qualified students who, without such aid, would be unable to attend college. Ivy Tech State College offers various types of financial aid to students. Students are encouraged to carefully survey the variety of financial aid options available.

- Scholarships and grants are types of gift assistance which do not require repayment.
- Educational student loans are low-interest loans that must be repaid. Interest and repayment generally begin six months after a student ceases at least half-time enrollment.
- Part-time employment through work-study provides meaningful employment for the student, also allowing the student to earn money to help defray education expenses.

## **Pell Grant Program**

All Pell Grant recipients must meet student eligibility requirements. Students must apply for the Pell Grant before applying for any other financial assistance. The Pell Grant program makes funds available to eligible students enrolled in a program which leads to a certificate or degree. Pell grant funds do not have to be repaid.

## **Supplemental Educational Opportunity Grant Program (SEOG)**

SEOG awards do not have to be paid back and provide aid based on the applicant's need, other aid received, and availability of funds. The student must be eligible for a Pell Grant.

## **Federal Work Study Program**

The Federal Work Study Program provides jobs for students interested in earning part of their educational expenses. Students in eligible programs of study may apply. Limited funds are available. The number of work hours per week is determined by the student's (1) financial need; (2) availability for employment; and (3) class schedule and academic performance. Employment is primarily on campus. Contact the Financial Assistance Office at (317) 921-4777.

## **Scholarships**

Scholarships, funded by private contributions, provide assistance to students in certain programs. The Financial Assistance Office considers all applicants for all available funds. Some scholarships are based on both merit and need. Please ask your instructor, program chair, and/or the Financial Assistance Office for information on specific program scholarships.

## **Loan Program**

Educational loans are one choice for Ivy Tech State College students. Before a loan is processed, federal law requires the student to complete an application for the Pell Grant. Students must receive Ivy Tech State College loan counseling before applying for a loan. All other types of assistance will be considered before the Financial Assistance Office will process a loan application.

## **Veteran's Benefits**

Students who served in the Armed Forces may be eligible for Veteran's benefits. Students should contact the Veteran's Affairs Office Counselor for more information at (317) 921-4932.

## **Students' Financial Rights and Responsibilities**

Financial aid, as a general rule, can only be awarded to students who are accepted into degree or technical certificate-granting programs; however, part-time students may be eligible.

Students who receive financial assistance are expected to keep themselves informed concerning various terms and conditions of receiving aid, especially those concerning satisfactory progress. Applications for aid in future years should be submitted in a timely manner, usually between January 1 and March 1 of each year to ensure additional aid from the State of Indiana. Some aid programs are administered by the College Financial Aid Office under the policies and guidelines established by state and federal government, other agencies, or outside organizations. A few programs may be available on a regional basis only. Eligibility for most financial aid at Ivy Tech State College is based upon the student's demonstrated financial need. To qualify for any form of financial aid, the student must complete the Free Application for Federal Student Aid (FAFSA) and the Ivy Tech Financial Aid Form each year. He/she must also meet additional eligibility requirements.

Students who drop or withdraw from class must

see a Financial Assistance counselor. Withdrawing from all classes or non-attendance of the classes may have a negative impact on funding from the Pell Program.

Additional information concerning federal, state, and college financial aid and refund rules are available on the financial aid check-list, in the Financial Assistance Office and in the Admissions and Counseling Office.

#### **Financial Assistance Checklist**

1. Complete the Ivy Tech State College Financial Assistance Information Form. It is best to do this as early as possible.
2. Pick up the Free Application for Federal Student Aid (FAFSA) from your high school counselor, the Admissions Office, or the Financial Assistance Office. Complete the application and mail to the Federal Student Aid Programs by May 20, 2000, to be eligible only for Federal Pell grants. You will receive a 1999-2000 Student Aid Report in three to four weeks.
3. If you are a new student, apply for admission early. For further information, contact the Admissions Office. An application for admission must be filled out to qualify for financial aid.
4. Request a financial aid transcript from each college or university that you have attended. This document must be on file before any financial aid can be applied. We can request them for you only with complete addresses and attendance dates.

#### **1999-2000 Financial Aid Follow-Up**

1. Return the 1999-2000 Student Aid Report to the Ivy Tech Financial Assistance Office as soon as you receive it in the mail. Make sure you read and complete it carefully. It may ask you to provide additional documents. Note: If you have not received your Student Aid Report by mail, please contact the Financial Aid Office.
2. Read carefully all instructions before completing and mailing your applications.
3. Keep readily available all taxable and non-taxable income documents for both yourself and your spouse; and your parents, if you are a dependent student. This includes signed 1999

tax forms, W2s, etc. You may be asked to submit certain income documentation for verification purposes.

4. Create a file folder marked "Financial Aid" so that you will have easy access to all forms, letters, award status, and related documents when you have questions.
5. If you drop or add classes, your award may change.
6. Finally, if you have any questions, please do not guess! A Financial Assistance advisor will be available to assist you in understanding the process on a walk-in basis.

Remember, to receive financial aid, it is best to apply early. Applications must be re-submitted in January of each year.

#### **Financial Aid Appeals**

For students who fail to maintain the standards of progress requirements, and are placed on Financial Assistance probation or suspension, the Financial Assistance Appeals process is available.

The appeals application can be picked up in the Financial Assistance Office. All Appeals will be determined by the Regional Financial Assistance Appeals Committee.

#### **Satisfactory Progress for Financial Assistance**

In order to maintain Satisfactory Progress, a student must meet the following standards:

##### Qualitative Standards of Progress

A student must be in good academic standing by earning at least a 2.00 grade point average (GPA) after attempting 15 or more program hours. Students on Academic Probation must raise their cumulative GPA to 2.00, or must receive a 2.00 term GPA (taking six quality hours\* or more), by the end of the probationary term or financial assistance will be denied.

\*quality hours=attempted credits

##### Quantitative Standards of Progress

Quantitative Standards of Satisfactory Progress are measured by (A) the number of credits completed each term, and (B) program completion within the maximum time frame.

Both requirements, as described below, must be met in order to meet Quantitative Standards of Progress.

A. By the number of credits completed each term:

Completion of credits is defined as earning one of the following grades: A, B, C, or D.

Each term, in order to maintain Satisfactory Progress, a student is required to complete the number of credit hours indicated for his/her enrollment status.

A student who does not earn the minimum credit hours required for his/her enrollment status at the end of his/her first term or at the end of any term immediately following a term of Satisfactory Progress, shall be placed on Academic Probation for the next term. During this probation term, financial assistance eligibility may be continued. However, a student who does not remove his/her probation status by the end of this first probationary term shall be considered as failing to make Satisfactory Progress. Unless he/she successfully appeals this determination, he/she shall be ineligible for financial assistance for the next term of enrollment.

### Required Term Enrollment

Enrollment Status: The following designations are used to determine a student's semester enrollment status:

- Full-Time: 12 + semester credit hours
- 3/4 Time: 9 - 11 semester hours
- 1/2 Time: 6 - 8 semester hours
- Less than 1/2 Time: 1-5 semester hours

Required Semester Enrollment Status For Financial Assistance: Each semester, the aid recipient must complete at least the minimum number of credit hours depending on his/her enrollment status for that semester. This includes Foundation courses.

<u>Enrollment Status</u>	<u>Minimum Required Number of Completed Credits per Semester</u>
Full Time:	9
3/4 Time:	6
1/2 Time:	4
Less than 1/2 Time:	All Hours Attempted

B. By program completion within the maximum time frame allowed:

A student is expected to complete all requirements for an Associate Degree or Technical Certificate within the maximum allowable time frame. Student maximum time is reached after he/she has attempted (enrolled) 150% of the number of credits that the Technical Certificate or Associate Degree program requires.

If a student reaches the maximum number of credit hours attempted, and the student has not completed his/her declared course of study, suspension of financial assistance will occur regardless of changes from one course of study to another. Reinstatement of aid will take place only if the student completed a course of study and subsequently enrolled in a course of study leading to another degree or certificate. In cases where a student is attempting to complete a subsequent course of study, all hours previously earned which apply toward that subsequent course of study will be counted toward the maximum time frame for that degree or certificate.

### Financial Assistance for Foundation Courses

Financial assistance may be granted for up to 30 credit hours of enrollment in Foundation courses. Educationally-disadvantaged students accepted in an eligible program will be able to enroll in Foundation courses (not counted toward the TC, AS, or AAS degree) in order to ensure their future academic good standing.

Financial Assistance will be denied:

1. In those terms following completion of the total maximum time frames. Total maximum time frames include all terms of enrollment during which students are not making satisfactory progress and/or are not receiving financial assistance.
2. In any term(s) within the maximum time frame following the first probation term in which satisfactory progress was not achieved.

### Regaining Eligibility for Financial Assistance Standards of Progress

Students who are denied financial assistance as a result of failure to maintain satisfactory progress will regain their eligibility if any of the following conditions are met:

1. Enroll at least half-time at their own expense and receive at least a 2.00 term GPA while meeting the Quantitative Standards of Progress. The student will regain financial assistance eligibility and will be on probationary status the following semester.

or

2. Enroll at their own expense and raise their cumulative GPA to a 2.00 or higher while meeting the Quantitative Standards of Progress. The student will regain financial assistance eligibility and will be in good standing the following semester.

or

3. Successfully appeal the Financial Assistance termination through the Regional Financial Assistance Appeals Committee.

Note: Even if a student's appeal has been accepted by the Financial Aid Appeals Committee, that student remains in a probationary status. If the student does not maintain the Financial Assistance Standards of Progress, he/she will be suspended from Financial Aid and will be required to pay for their own classes the following semester.

## Fee Information, Refund Policy, Registration

### College Fees

The College seeks to provide quality education at the lowest possible cost. General fees are based on the number of credit hours for which the student is registered. Additional costs include Divisional fees and special fees pertaining to particular courses or College activities. Out-of-state students pay an additional fee per credit hour.

All student fees are to be paid at the time of registration. Students having fees to be paid by a third party must have fee payment authorization before registering. Fees may be paid by cash, check, money order, Master Card or Visa.

### Additional Expenses

The following additional expenses may apply, depending upon the program of study:

**BOOKS:** All students are expected to purchase the textbooks for their respective programs. The cost of books will vary according to classes taken.

**TOOLS:** The College furnishes major equipment items for instruction; however, in many programs or courses students must furnish additional hand tools and equipment.

**UNIFORMS AND OTHER SPECIAL EQUIPMENT:** Several programs require students to furnish uniforms and special safety equipment.

**TRAVEL:** Transportation costs to and from the College clinical or practicum sites vary according to the distance and the type of transportation used.

### Instructional Fees\*

Resident of Indiana:	\$66.20 credit
Non-Resident:	\$123.50 credit
<u>Miscellaneous Fees*</u>	
Application fee:	No charge
Credit by examination fee (per course):	\$10.00/credit
Late registration (first day of class):	\$10.00
Student I.D. card:	No charge
Transcript fee:	No charge
Parking:	No charge
Deferment Charge:	\$25.00

\*subject to change by the State Board of Trustees

For a current schedule of fees and further information, contact the Admissions Office.

### Payment of Fees

All enrolled students must pay all applicable fees. A student is officially registered and allowed to attend classes only when all fees have been paid.

### Refund Policy

Students choosing to drop or withdraw from a course or courses must notify the College in writing using the Drop/Add Form. The fee refund for voluntary withdrawal from a class, when applicable, will be processed only after the student files a College Drop/Add form or withdrawal form with the Registrar's Office.

The College will refund students' assessed fees



with the exception of the late registration and deferment fee, on a schedule computed as follows for fall or spring semester:

To end of first week of semester: .....  
 100% refund  
 To end of second week of semester: .....  
 75% refund  
 To end of third week of semester: .....  
 50% refund  
 To end of fourth week of semester: .....  
 25% refund  
 After fourth week of semester:  
 No refund.

- The effective date for calculating the fee refund is the date of written notification.
- Certain other fees may be refundable. Further details are available from the Bursar's Office.
- All refunds will be issued by check and mailed to the address shown on the student registration form.
- Cancellation of credit courses by the College will result in total refund of fees collected for those course.
- Please allow 10 (ten) working days for refunds to be processed.

### Registering for Courses

The registration process includes financial aid and program counseling, selection of courses, and payment of fees. Newly-admitted students will be notified when to register for their first semester classes.

Specific days are set aside for registration before the beginning of each semester. Students should seek assistance in course selection from faculty advisors or counselors through the

Counseling Office before registering for classes.

The Counseling Office can supply information concerning registration.

**NOTE: STUDENTS ARE REGISTERED ONLY WHEN FEES HAVE BEEN PAID.**

### Registration

Please see class schedule for course reservation days and registration times. Registration on

or after the first day of classes each term is considered late. Students may register after the first week of classes with the permission of the instructor; however, a late registration fee is assessed beginning the first day of classes. For further information, students are asked to contact the Admissions and Counseling offices.

## College Tuition

Note: Selected courses will require a materials fee which will cover the consumable materials needed for the course. The fee varies with the division from which the course is offered. All fees are subject to change without notification.

Credits	In State	Out of State
1	\$66.20	\$123.50
2	132.40	247.00
3	198.60	370.50
4	264.80	494.00
5	331.00	617.00
6	397.20	741.00
7	463.40	864.50
8	529.60	988.00
9	595.80	1,111.50
10	662.00	1,235.00
11	728.20	1,358.50
12	794.40	1,482.00
13	860.60	1,605.50
14	926.80	1,729.00
15	993.00	1,825.50
16	1,059.20	1,976.00
17	1,125.40	2,099.50
18	1,191.60	2,223.00
19	1,257.80	2,346.50
20	1,324.00	2,470.00
21	1,390.20	2,593.50
22	1,456.40	2,717.00
23	1,522.60	2,840.50
24	1,588.80	2,964.00
25	1,655.00	3,087.50
26	1,721.20	3,211.00
27	1,787.40	3,334.50
28	1,853.60	3,458.00
29	1,919.80	3,581.50
30	1,986.00	3,705.00

### **Dropping and Adding**

Courses may be dropped or added during the first two weeks of the regular semester. Students may be eligible for a full or partial refund of the assessed fees for courses dropped during the first four weeks of the semester. Students changing, adding or withdrawing from a class must notify the College in writing using the drop-and-add form. This form must be submitted to the Registrar's Office.

### **Student Withdrawal**

From the beginning of the second week to the end of the week marking the completion of 75 percent of the course, a student may withdraw from a course by filing a completed withdrawal form at the Registrar's Office and discontinuing class attendance. Students may be eligible for a full or partial refund of the assessed fees—see Refund Policy. Records will then indicate status of "W" in place of a grade for that course. A student who discontinues class attendance after the last day to withdraw with a "W" will receive a grade commensurate with the course requirements.

## **Student Records**

An educational record is maintained for each student who is, or has been, enrolled at Ivy Tech State College-Central Indiana. In accordance with the Family Educational Rights and Privacy Act of 1974, as amended, the following student rights are covered by the Act and afforded to all students at Ivy Tech State College:

1. The right to inspect and review information contained in the student's educational records.
2. The right to challenge the contents of their educational records.
3. The right to a hearing if the outcome of the challenge is unsatisfactory.
4. The right to submit an explanatory statement for inclusion in the educational record if the outcome of the hearing is unsatisfactory.
5. The right to prevent disclosure, with certain exceptions, of personally identifiable information.
6. The right to secure a copy of the institutional policy.
7. The right to file complaints with the U.S. Department of Education concerning alleged failures by Ivy Tech State College-Central Indiana to comply with the provision of the Act.

Each of these rights, with any limitations or exceptions, is explained in the Institutional Policy

Statement, a copy of which may be obtained in the Admissions Office.

At the discretion of College officials, directory information may be provided in accordance with the provisions of the Act without the written consent of the student unless the student requires, in writing, that such information may not be disclosed (see below). These items are designated as directory information and may be released for any reason at the discretion of Ivy Tech State College-Central Indiana unless a request for non-disclosure is on file.

1. Name, address, telephone number, dates of attendance.
2. Previous institution(s) attended, major field of study, awards, honors, degree conferred.
3. Past and present participation in officially recognized sports and activities, physical factors of athletes (height and weight), date and place of birth.

Students may request the withholding of directory information by submitting their request to the Office of the Registrar. The request form must be completed for each term of enrollment. Failure on the part of a student to request the withholding of specific categories of directory information indicates the student's approval of disclosure.

### **Dependency Provision**

Ivy Tech State College-Central Indiana reserves the right, as allowed under the Federal Educational Rights and Privacy Act of 1974, to disclose educa-

tional records or components thereof, without written consent, to parents of dependent students as defined according to the Internal Revenue Code of 1954-Section 154 (as amended).

However, all Ivy Tech State College-Central Indiana students will be assumed to be "independent." A certified copy of the parents' most recent

Federal Income Tax Form establishing the student's dependency status shall be required before any educational records or components thereof will be released to the parent of any student. The student will be required to sign a Release of Information Form.

## Academic Information

### Testing Out of Courses

Policies regarding testing out of courses vary from program to program. A student who wishes to test out of a course should contact the program advisor. A \$10.00 per credit-hour fee will be charged for the test. The general guidelines for test-out are as follows:

1. Test-out examinations should be taken before the student registers for the course for which the test-out is attempted.
2. Test-out examinations are normally completed at one sitting (unless the test is offered in two parts, i.e., lab and written exams).
3. Test-out credits are not included in credit computations for financial aid programs or student grade point average.

### Academic Grading

The academic grading system has both grades and status codes. In certain instances, a status code will appear on the student's record in place of a grade. Status represents a condition to which no letter grade can be assigned. Grades reflect the quality of performance and level of competency achieved by students who complete a course. Instructors determine and assign grades and status based on objective appraisal and evaluation of students' performances. Semester grade reports are sent to each student.

### Grades

The quality of student performance or competency level, as determined by the instructor at the completion of a course, is indicated by a letter grade of A, B, C, D, or F. Each designation has a numerical value per credit hour, referred to as Quality Points/Per Credit. The meaning of the quality point value per credit hour of each letter grade is shown in

the table that follows:

<u>Grade</u>	<u>Description</u>	<u>Quality Points</u>
A	Excellent	4
B	Good	3
C	Average	2
D	Medium Passing	1
F	Failure	0

While Foundation courses are assigned these grade designations, no quality points or quality hours are generated.

### Status Codes

Status codes describe the state or condition of a course appearing on the student's record that has not received a grade. Status code indications carry no grade points. The types of status codes and the symbols used to indicate them are:

<u>Grade</u>	<u>Description</u>	<u>Quality Pts</u>
I	Incomplete	0
AU+	Audit	0
S	Satisfactory	0
U	Unsatisfactory	0
V	Verified Competency	0
NW	No-Show Withdrawal	0
W	Withdrawal	0

+Must be declared at time of registration and cannot be used to complete financial assistance eligibility.

These non-grade codes are used:

### I-Incomplete

"I" designations are received by students who have actively pursued a course and are doing passing work at the end of the course, but who have not complete the final examination and/or other specific

course assignments. To remove the “I” designation, a student must meet with the instructor to make arrangements to complete the course work. The instructor must submit the grade within 31 calendar days after the beginning of the term following the term the student received the “I” designation. If an “I” status code is not converted within the aforementioned time, an “F” will be assigned. Students who have an “I” status on their record may not register in that specific course. However, if the “I” is changed to an “F” the student may then register only once more for that course in order to earn a passing grade.

#### **AU-Audit**

Audit (AU) status indicates enrollment in a course for no grade or credit. The fees for audited courses are the same as those for courses taken for credit. Audit status must be declared no later than the end of the first week of classes with approval of the Instructor or Program Chair.

#### **W-Withdrawal**

A “W” status code will be used for student and academic withdrawals. When students find it necessary to withdraw from a course(s), they must give formal notification to the Registrar by completing a drop form. Student Withdrawal (W) is a terminal status, referring to voluntary withdrawal by a student beginning at the start of the second week of the course up to the end of the week marking the completion of 75 percent of the course.

After 75 percent of the term has elapsed, a student may withdraw only if documented extenuating circumstances are submitted to, and approved by, the Dean of Instructional Affairs or his/her designee. The “W” status code designation will be entered on the student’s academic records.

Instructors may also recommend that a student receive a “W” status code for student nonattendance in class or student disciplinary reasons.

#### **S-Satisfactory**

The “S” indicates satisfactory completion of course work in situations where a status of either satisfactory or unsatisfactory (pass/fail) has been arranged by prior agreement.

Although no grade is assigned, credit is earned. Designation of “S” will not count toward degree and certificate graduation requirements.

#### **U-Unsatisfactory**

The “U” indicates unsatisfactory completion of course work in situations where a status of either

satisfactory or unsatisfactory (pass/fail) has been arranged by prior agreement by the Dean of Instructional Affairs or his/her designee. Requests for this type of grading can be made only for non-program related courses and must be declared at time of registration. The “U” differs from an “F” in that quality points are not computed.

#### **V-Verified Competency**

The “V” indicates satisfactory completion of course work in situations such as test-out credit for experience or training, or College Level Examination Program (CLEP). Credit gained through this method may be used to satisfy degree requirements. This status is approved by the Dean of Instructional Affairs upon recommendation of a faculty advisor, following completion of necessary verification and documentation of competency.

#### **Transfer Credit**

Credits taken more than five years prior are subject to review by the Chief Academic Officer if applied to a degree or certificate objective. This policy applies to credits accepted in transfer from another institution and to credits taken at Ivy Tech prior to declaring the new degree or certificate objective to which the credits may apply.

#### **Credit Hours**

Credit is described in semester hours (the number of credits taken per semester). The number of credits is determined by the demand of the course, course work and by the number of contact hours—the hours actually spent in the classroom or laboratory.

#### **Credit Hours/Load**

A credit hour represents at least one hour of lecture, three hours of laboratory or three hours of clinical instruction per week for the semester. A three-credit-hour lecture course, for example, meets 48 hours during the semester. An average full-time class load per semester in most programs consists of 12-15 credit hours. To take a class load of more than 17 credit hours, a student must have the approval of the Dean of Instructional Affairs or his/her designee.

#### **Enrollment Status**

Enrollment status is determined by the total semester credits being taken:

Full Time: 12 or more credits per semester

3/4 Time: 9 - 11 credits per semester



1/2 Time: 6 - 8 credits per semester  
Less than 1/2 Time: 1-5 credits per semester

A first-year student, by definition, is one who has completed fewer than 30 semester credit hours; a second-year student is one who has completed 30 or more semester credit hours.

### **Quality Points**

Quality points are numerical values indicating the quality of student performance in credit courses: A=4; B=3; C=2; D=1; F=0. The quality points earned for a course equal the quality point value times the number of credits. A student who earns an A in a 4-credit course earns 16 quality points: the quality point value (4) X the number of credits (4) = total quality points (16).

### **Grade Point Averages**

The GPA is calculated by dividing quality points by quality hours. Quality Hours include all non-Foundation courses grades A-F.

### **Improving a Grade**

Students, with the approval of faculty advisors, may attempt to improve D or F grades by repeating courses (allowable once in most programs). Financial Assistance recipients, however, should review their situations carefully since payment for repeated courses can be disallowed. Permanent student records contain complete files on all activity. The student's grade point average will reflect the highest grade earned.

### **Petition for Course Exclusion**

Under extenuating circumstances, a student may petition the Dean of Instructional Affairs to exclude semester hours of course work statistics from the cumulative GPA calculation. Course statistics that are excluded from the cumulative GPA calculation as a result of a petition will not be counted as earned and cannot be used to satisfy requirements for degree-declared students. Petition forms may be obtained from the Registrar's Office.

### **Academic Standards of Progress**

Note: This section applies to the College's academic standard of progress. Students with financial assistance should read the financial assistance section which explains that required standards of progress, along with grades, include semester progress and maximum time frame.

Ivy Tech State College-Central Indiana has established this Policy for Academic Standards and Appeal of Standards of Progress.

1. A student who has declared a degree or certificate objective and has 15 or more cumulative quality hours must maintain a 2.00 minimum cumulative GPA to be considered in satisfactory academic standing.
2. A student who fails to maintain satisfactory academic progress will be subject to a series of intervention activities and related restrictions until such time as he/she restores satisfactory progress or is dismissed as a degree/certificate seeking student due to repeated unsatisfactory progress. The intervention strategies and restrictions could include, but are not limited to: (1) reduced course load, (2) required counseling sessions, (3) enrollment in Foundation courses, and/or (4) disqualification for graduation.
3. A student who is dismissed for unsatisfactory academic progress faces one term of non-enrollment as a certificate or degree/declared student prior to resuming progress toward that certificate or degree, at which time re-enrollment is allowed on a probationary status.
4. A student who is dismissed twice for unsatisfactory academic progress will be terminated for up to five years as a degree or certificate-declared student unless he/she chooses to participate in an extensive Foundation program.
5. Dismissal from one campus constitutes dismissal from the College. Petition for readmission must be initiated at the site where dismissal occurred via the Academic Status Committee.
6. Satisfactory academic progress is restored when a student successfully earns at least six credit hours and re-establishes a 2.00 cumulative grade point average.

### **Academic Problems**

If a student has a problem with a grade, he/she should discuss it with the instructor. If the problem cannot be resolved then the student must consult the Divisional Chair. After discussion with a Divisional Chair, if the matter is still not resolved, the student should contact the Dean of Instructional Affairs. The student may be directed to follow the

academic appeals process if the student still does not agree with the solution.

### **Dean's List**

The Dean's List, prepared and published each semester, gives recognition to students who achieve a minimum 3.50 grade point average or higher with no D or F grades while earning 12 or more credits during the fall and spring semesters or greater than eight credit hours for the summer session. The Dean's List is posted on the bulletin boards in the North Meridian Center and the Technology Center.

### **Commencement**

The Associate of Science degree, the Associate of Applied Science degree, or the Technical Certificate is awarded by the College to students who meet graduation and certification eligibility requirements. Commencement ceremonies are held each spring.

A student is considered eligible for graduation when the requirements for graduation or certification have been fulfilled in the selected program. Each student entering the final semester prior to graduation must complete an Application for Graduation form. The application will be certified by the student's program advisor and then forwarded to the Registrar's Office, where the appropriate diploma will be prepared.

To graduate with the Associate of Science degree, Associate of Applied Science degree or Technical Certificate, students must:

1. Successfully complete all courses within certification requirements with a cumulative grade point index of at least 2.00.
2. Successfully complete the required number of credits.
3. Complete at least 15 degree credits as a regular student of Ivy Tech, and not through test-out or other means of advanced placement.
4. Satisfy all financial obligations due the College.
5. Satisfy program accreditation standards that may have additional requirements.

### **Attendance**

Regular attendance is expected at scheduled class meetings or other activities assigned as part of a course of instruction. Attendance records are kept by instructors. Irregular attendance or frequent absence is cause for failure of a course of study.

# Student Development and Support Services

Ivy Tech State College-Central Indiana offers a variety of services to Ivy Tech students. Following is a brief description of services and operation hours during the fall and spring semesters. Summer hours may vary. Students with academic needs are encouraged to call (317) 921-4319 or (317) 921-4972.

## Computer Assisted Instruction (CAI) Lab

The CAI Lab offers a variety of services to Ivy Tech students through computer use. Students may visit the lab and utilize the following educational software: ESL, math, developmental science, reading, study skills, and writing.

The CAI Lab hours are 8:00 a.m. to 8:30 p.m., Monday through Thursday; and Friday, 8:00 a.m. to Noon.

## Testing Lab

Students who miss tests or need to retest may, with approval from the instructor, visit the Testing Lab.

The Testing Lab hours are 9:00 a.m. to 7:30 p.m., Monday through Thursday; and Friday, 8:00 a.m. to Noon.

## Tutoring Lab

Students have the opportunity to work with professional tutors in math, reading, chemistry, and anatomy and physiology.

The Tutoring Lab hours are 8:00 a.m. to 8:30 p.m., Monday through Thursday; and Friday, 8:00 a.m. to Noon.

## Writing Center

Students have the opportunity for one-on-one tutoring. The Writing Center helps students generate ideas for papers, helps students with their designated deficiencies and provides feedback and suggestions.

The Writing Center hours are 8:00 a.m. to Noon and 1:00 p.m. to 5:00 p.m., Monday through Thursday; and Friday, 8:00 a.m. to Noon.

## Career Counseling

The Offices of Admissions, Freshman Academic Advising, and Career and Employment Services offer career counseling to all interested students. Students may obtain individual counseling and/or assessment to assist them in identifying their abilities or occupational interests. Counseling and assessment are also helpful in developing realistic education and career plans through use of occupational outlook data.

In addition to the services offered by the Counseling and Freshman Academic Advising offices, the College utilizes a faculty advisor system. On admission, each degree-seeking student is assigned a faculty advisor whose purpose is to:

1. Assist the student in course selection and program planning.
2. Guide the student in meeting the requirements for graduation as prescribed by the College.
3. Ensure that the appropriate technical and general education electives are included in the chosen course of study.

## Office of Career and Employment Services (CES)

The Office of Career and Employment Services supports registered graduates and enrolled students of the College in career development, student employment, and resume assistance. The CES staff and the program advisors coordinate efforts to refer qualified candidates to appropriate employment opportunities.

The Career and Employment Services philosophy is "helping students/graduates to optimize the employment process and assisting them in making a smooth transition into the world of work."

The CES office offers a full range of services which includes but is not limited to the following:

1. Individual employment counseling and career assistance;
2. On-campus recruitment with employers from business and industry;
3. Job Search/Interviewing and Resume Writing Workshops;
4. Classroom presentations;
5. Annual Job Fair;
6. Resume referral: Over 5,000 jobs are listed annually;
7. Credential files and references: Maintained on all registered graduates and undergraduates for job matching and resume referral purposes;
8. Various computerized services offered in the Office of Career and Employment Services:

Resumes by Ralph  
State Employment Services (JSMS)  
KiNexus (candidate registration process)

Choices and Passport To Your Future (career exploration software package);

9. **Resource Center:** Includes career information, company literature, annual reports, job vacancy notices, application forms, information on four-year colleges, and free job search booklets and handouts.

Students are encouraged to register early in their college careers and take full advantage of opportunities available to them.

### **Learning Resource Center/Library**

The LRC's hours are 8:00 a.m. to 9:00 p.m., Monday through Thursday; Friday, 8:00 a.m. to 4:30 p.m.; and Saturday, 9:00 a.m. to 1:00 p.m. Summer hours may vary. The LRC is located on the fourth floor of the North Meridian Center.

The LRC houses Library Services, Audio Visual Services, and Distance Learning Services. The Library has a collection of print, non-print, and automated on-line materials suited to the objectives and programs of the College. Library resources include: the general book collection, reference books, periodicals, pamphlets, audiovisual materials, CD-ROM journal indexes and full-text databases. The Library offers access to other library collections through inter-library loan networks.

The Library's book collection has over 13,000 books arranged by the Library of Congress classification system. The Library subscribes to 400 periodicals and CD-ROM titles.

Books may be checked out for two weeks and renewed for additional time if they are not needed by others. To check out books and other materials from the Library, students must use an Ivy Tech library card which is issued after verification of registration. The Library sends notices of overdue books and fines. The fine is five cents per day after the due date (Saturdays, Sundays, and holidays are excluded).

The Library's Audio Visual Department contains all of the Library's software, listening stations, and viewing stations.

Software and equipment may be scheduled for class presentations by students.

### **College Bookstore/Campus Cafe**

The Bookstore is open 8:00 a.m. to 6:00 p.m., Monday through Thursday; and Friday, 8:00 a.m. to 4:00 p.m. The Bookstore is located on the first floor of the Technology Center. Cash, personal checks with proper ID, Visa, and MasterCard are accepted for payment. Refunds on textbooks are limited as follows: Full refunds are given when returned new books are in mint condition and are returned within three weeks of purchase with the register receipt; a 75% or less refund will be given for returned new books not in mint condition.

The Campus Cafe has a varied menu each day. The Cafe is open 7:30 a.m. to 6:00 p.m., Monday through Thursday,

and Friday, 7:30 a.m. to 3:00 p.m. Hot breakfast is served 7:30 to 9:30 a.m., and the hot grill reopens at 10:30 a.m. until close.

### **Student Government Association (SGA)**

Students are encouraged to participate in student government through membership in the Student Government Association. The SGA is the representative governing body of the students and is regulated by the College's rules, policies, and regulations. The SGA is composed of representatives and officers who oversee all clubs and organizations. Student senators and representatives are elected or selected according to the by-laws of each regional Student Government Association constitution and serve as stated in those by-laws.

The student body membership may consist of senators of the first-year class, the second-year class, each program area, and an advisor as established in the by-laws.

The SGA was established by students to encourage participation in student government and to promote College spirit and recognition. The SGA exercises the authority, unless otherwise delegated, to legislate on student matters, subject to the approval of appropriate College administrative offices.

The constitutions of all student organizations must be approved by quorum of the SGA, consisting of a simple majority of the total membership and one staff advisor, or as otherwise stated in the by-laws. The functions of the SGA include:

1. Communication of bona fide concerns of the student body and suggestions for improvement to appropriate College officials.
2. Approval of those student organizations deemed beneficial to student life and worthy of being a part of the College.
3. Assurance that copies of the constitution, by-laws, and statement of purpose and objectives of each recognized student organization are on file in the Counseling Office.
4. Referral of student grievances concerning disciplinary matters or student status to appropriate College officials.
5. Planning and conducting of all appropriate extracurricular student activities.
6. Submission of student activity budgets for review and approval by the regional administration.

### **Student Organizations**

Current clubs and organizations include:  
Administrative Office Assistants  
Alumni Association  
Hospitality-Restaurant Management Student  
Development Committee  
Human Services Club



Ivy Tech Fishing Club  
Phi Theta Kappa (PTK)  
National Student Nurses Association  
Radiology Association  
Student Paralegal Association  
Student Government Association  
Veteran's Club

These clubs and organizations provide opportunities for leadership training and community service, promote an intellectual climate for interchange of ideas and ideals, and foster the desire for continued education. Certain criteria may apply to some clubs. Phi Theta Kappa, for example, requires applicants for initiation to have completed at least 12 semester hours with at least a 3.5 GPA.

### **Alumni Association**

Membership in the Ivy Tech State College Alumni Association is open to current students at no charge. Others eligible for membership include students who have earned a certificate or degree, former students, current and former faculty and staff, and trustees.

For information on Alumni Association activities, call (317) 921-4312.

### **College Professional**

Student chapters of various professional and trade societies will be formed in the same manner as other student organizations and are subject to the same requirements.

### **Student Right-To-Know**

Ivy Tech State College-Central Indiana follows the Student Right-To-Know and Campus Security Act, Public Law 101-542, as amended by the Higher Education Technical Amendments of 1991, Public Law 102-26. Required information is available to prospective and current students through the Admissions Office.

### **Communicable Disease Policy**

The Communicable Disease Policy of Ivy Tech State College was developed to ensure the good health and safety of all students and employees.

Communicable disease shall be defined as any condition which is transmitted directly or indirectly to a person from an infected person or animal through the agency of an intermediate animal, host or vector, or through the inanimate environment.

Communicable and infectious disease shall include, but is not limited to:

Influenza  
Tuberculosis  
Conjunctivitis  
Infectious Mononucleosis  
Acquired Immune Deficiency Syndrome (AIDS)  
and AIDS Related Complex (ARC)

Positive HIV antibody status  
Hepatitis A, B, and D  
Meningitis  
Sexually Transmitted Diseases

No student or employee who has a communicable disease will be required to report the condition to any campus official if the disease or their condition does not pose a medically proven threat for transmission of the disease or condition. However, students and employees should be encouraged to advise local health authorities if they have a communicable disease. Local health authorities should offer counseling to these persons about measures which can be taken to prevent the spread of infection and about ways to protect their own health.

Persons who know or who have reason to believe that they are infected with a communicable disease have an ethical and legal obligation to conduct themselves in accordance with such knowledge in order to protect themselves and others. Students who have communicable diseases, whether symptomatic or not, will be allowed regular classroom and work attendance in an unrestrictive manner as long as they are physically able to attend classes, college activities and/or work, and do not pose a medically-proven threat for transmission of the disease or condition. When there is no medical justification for totally restricting the access of students who have communicable diseases, they will be allowed access to the College facilities.

No person, group, agency, insurer, employer, or institution should be provided any medical information without the prior specific written consent of a student unless required by state and/or federal law. Furthermore, all medical information relating to the communicable diseases of students and employees will be kept confidential, according to an amendment to the Family Education Rights and Privacy Act of 1974.

For more information regarding this policy, please contact the Student Affairs Office.

### **Workplace Violence Policy**

Ivy Tech intends to provide a safe place to work for all students. Violent behavior, direct or indirect threats, harassment or intimidation will not be tolerated.

It is the responsibility of every student to help keep the school safe by monitoring his/her own behavior and by reporting incidents involving other students which involve any form of violence or threatening behavior.

Experience has shown that there are warning signs to incidents of violence. Examples are as follows: preoccupation with reports of violence, discussion or suggestions about hurting others, continuing complaints, or any threats against other students or faculty/staff.

All students can experience stressful times and they are encouraged to seek assistance when this occurs. Counselors can provide information about appropriate agencies that can help people deal with stress.



In order to keep the workplace safe, incidents of violence, threats, harassment, or intimidation will be taken seriously. Through due process, the situation will be investigated and all parties involved will be heard. If verbal abuse, threats, harassing, intimidating, or disruptive behavior is determined, a student may be suspended or his/her enrollment terminated.

Determination of physical assault, battery, or forcible sex offenses will be grounds for immediate dismissal. A student may appeal these sanctions through the Student Status Committee.

All student actions/behaviors are also governed by local state and federal laws and regulations.

Note: Security should be called when there is a violent incident requiring immediate attention.

Security: 921-4806 or 4806 using a campus phone

Pager \* 799-0644 (North Meridian Center)

Pager \* 799-0646 (Technology Center)

Pager \* 299-0645 (Automotive Technology Center) \* dial 9 first if using a campus instead of public phone

### **Campus Crime Awareness and Campus Security Information**

The mission of the Campus Security Department is to provide the safest educational environment possible for all faculty, staff, students, and visitors to all Ivy Tech State College campus locations.

Any student, prospective student, faculty, or staff person who has been a victim of, or witness of, a criminal act which occurred on any of the facilities or grounds of any Ivy Tech campus is encouraged to immediately report this act to Campus Security. Campus Security operational hours are posted on campus.

Each Ivy Tech campus employs security staff to whom all criminal activity should be reported. It is College policy to assist the police in any investigation which they conduct.

Known and suspected violations of Federal and Indiana laws and other emergencies should be reported to the Campus Security by calling (317) 921-4806.

Access to Ivy Tech State College facilities is from 7:00 a.m. - 11:00 p.m. each weekday during the semester.

Faculty, staff and students must work together to take steps to protect themselves from becoming victims of a crime.

The Crime Awareness and Campus Security Act of 1990 requires that the following campus statistics be provided for your information.

These statistics are based on all crimes reported to Campus Security for this campus during the three year period including 1996, 1997, 1998 and 1999. The statistics include crimes occurring at Ivy Tech State

College - Central Indiana Region only.

#### **Crimes Reported    1999   1998   1997   1996**

Murder	0	0	0	0
Rape	0	0	0	0
Sex offenses, forcible	0	0	0	0
Sex offenses, non-forcible	0	0	0	0
Robbery	0	2	0	0
Aggravated Assault/Battery	0	0	0	0
Burglary	0	27	13	8
Motor Vehicle Theft	0	1	0	1
*Other:	14			

\*This category, new in 1999, includes motor vehicle vandalism, larceny theft, auto accident, vandalism, hit and run, theft.

#### **Arrests                    1998   1997   1996   1995**

Liquor Law Violations	0	0	0	0
Drug Abuse Violations	0	0	0	0
Weapons Possessions	0	0	0	0

1999 Statistics are from July 1998 to July 1999.

Students participating in off-campus, college sponsored activities need to report criminal incidents to the law enforcement agency having jurisdiction, and inform the Campus Security Department.

### **Sexual Harassment and Sexual Assault Policy**

Ivy Tech is committed to the maintenance of an environment which is supportive of its primary educational mission and free from all exploitation and intimidation. The College will not tolerate sexual harassment, sexual assault, rape, or other forms of non-consensual sexual activity. Ivy Tech State College supports this policy for students, faculty, and staff through its educational prevention programs and its counseling support services.

Sexual harassment is defined as unwelcome sexual advances, requests to engage in sexual conduct, and other physical and expressive behavior of a sexual nature where:

1. Submission to such conduct is made either explicitly or implicitly a term or condition of an education;
2. Submission to or rejection of such conduct by an individual is used as the basis for academic probation affecting the individual; or

3. Such conduct has the purpose or effect of substantially interfering with an individual's academic performance or creating an intimidating, hostile or demeaning employment or educational environment.

Sexual harassment is a form of sex discrimination which is illegal under Title IX of the Education Amendments of 1972 for students.

Ivy Tech will enforce this policy through internal disciplinary procedures, security programs, and the encouragement of external prosecution of alleged offenders through appropriate external judicial forums. Violations of this intent of external prosecution of alleged offenders through appropriate external judicial forums. Violations of this policy shall include, but not be limited to, the following:

1. Persistent, unwanted attempts to change a professional or educational relationship to a personal one; unwelcome sexual flirtations and inappropriate put-downs of individual persons or classes of people to serious physical abuses such as sexual assault and rape; unwelcome sexual advances; repeated sexually oriented kidding, teasing, joking, or flirting; verbal abuse of a sexual nature; graphic commentary about an individual's body, sexual prowess, or sexual deficiencies; derogatory or demeaning comments about either gender in general, whether sexual or not; leering, whistling, touching, pinching, or brushing against another's body; offensive crude language; or displaying objects or pictures which are sexual in nature that would create hostile or offensive work or learning environments.
2. Any form of non-consensual sexual intercourse, committed by physical force, coercion, threat, or intimidation, actual or implied, by a person(s) known to the victim.
3. Any actual or attempted non-consensual sexual activity including, but not limited to: sexual intercourse or sexual touching, committed without physical force, coercion, threat, or intimidation; exhibitionism or sexual language of a threatening nature by a person(s) known or unknown to the victim.

Non-consensual activity shall include, but not be limited to, situations where the victim is unable to consent because he/she is physically helpless, mentally incapacitated, or is unconscious. The inability to consent may be due to drug or alcohol consumption, regardless of whether or not the consumption was with the victim's consent.

Consensual sexual activity between an instructor or staff member and a student is discouraged.

Victims of sexual harassment or non-consensual sexual activity at any official College function or course spon-

sored by the College are encouraged to file a complaint through College officials as soon as possible after the alleged incident. Students should file complaints with the Office of Student Affairs and Affirmative Action Office. Victims of sexual assault should seek medical treatment immediately. If physically injured, victims should seek medical treatment immediately or as quickly as possible. Contact Campus Security or the police as soon as possible to report the incident.

If the offense involves another student on College property or at any official College function or course sponsored by the College, disciplinary action may be initiated within the College. Sanctions may include required counseling, temporary suspension, or dismissal. Both the accuser and the accused are entitled to have others present during any proceeding. The outcome of the proceedings will be provided to both the accuser and the accused for any proceedings where sexual assault is alleged. The College will attempt to assist the victim with requested changes in academic situations whenever reasonably possible.

Students who perceive that they are victims of sexual harassment on College property should contact the campus Affirmative Action Office or the Student Affairs Office. The Affirmative Action Office responds to every complaint, providing proper mediation when harassment is determined. Complaints against students will be forwarded to the Office of Student Affairs for resolution within the College's due process procedures for students.

This policy shall supplement all other College policies relating to sexual assault and harassment, all of which shall remain in effect. All policies shall be applied consistently in such a manner as to accomplish their collective purposes and may be amended from time to time as deemed necessary or desirable by the College.

## **Drug Policy**

### **Definitions**

Substances referred to under this policy include all illegal drugs, alcoholic beverages and misused legal drugs (both prescription and over-the-counter).

Illegal drugs refer to the illegal manufacture, distribution, dispensation, possession or use of controlled substances listed in the Indiana Controlled Substances Act (IC 35-48-1-1, et seq).

The purpose of the Drug-Free College Policy is to maintain a safe and productive teaching and learning environment and to be in compliance with the Drug-Free Workplace Act of 1988 and the Drug-Free Schools and Communities Act.

All employees are expected to perform their duties and students are expected to attend classes, labs, and College activities unhindered by the substances defined above. The College will establish a drug-free awareness program for employees and students, and employees and students are expected to work together to maintain a teaching and learning environment free of illegal drugs.

The unlawful manufacture, distribution, dispensation, possession, and use of illegal drugs present a hazard to students, employees, and property and are not permitted at any property in use by the College, at any official function sponsored by the College, and at any course conducted by the College. Any employee or student convicted of a criminal drug offense in or on properties controlled by the College, or while conducting College business is required to notify his/her supervisor or the Director of Student Affairs, respectively, within five days of the conviction.

Any employee who violates this policy is subject to disciplinary action. These actions may include, but are not limited to, reprimand, participation in a treatment program, suspension, and/or termination. Each supervisor is responsible for implementing the Drug-Free College Policy as it relates to employees.

Any student who violates this policy is subject to disciplinary action. Such action may include, but is not limited to, dismissal from College classes, programs, and activities. The Director of Student Affairs is responsible for implementing the Drug-Free College Policy as it relates to students. As part of an effort to create a drug-free campus, Ivy Tech State College believes that employees and students should be educated about:

1. The physical and emotional health risks associated with the misuse of alcohol and drugs.

2. Treatment programs available in Indiana.

3. The possible legal consequences of drug and alcohol use.

The College encourages employees and students who experience problems with drugs and/or alcohol to seek help before these problems interfere with their performance at Ivy Tech State College and endanger their health and safety.

### **Student Rights and Responsibilities/**

#### **Student Conduct**

The reputation of Ivy Tech State College in the community depends, in large part, upon the behavior of its students. Students enrolled at the College are expected to conduct themselves in a mature, dignified, and honorable manner. Activities that violate academic integrity, undermining the quality and diminish the value of educational achievement.

Students are subject to College jurisdiction while enrolled at Ivy Tech State College. The College reserves the right to take disciplinary action against any student whose conduct, in the opinion of Ivy Tech State College representatives, has not been in the best interest of the student, other students, or the College.

The purpose and overall objectives of student rights and responsibilities policies at Ivy Tech is to provide a process for the fair and just administration of the College's judicial system.

Ivy Tech State College-Central Indiana complies with regulations governing Drug-Free Schools and Campuses (34-CFR Part 86). Information about community drug and alcohol abuse programs is available in the Counseling Office located on the first floor of the North Meridian Center.

All Ivy Tech State College students are expected to abide by the following College Rules of Conduct. "Student" as used refers to a student, a group of students, a prospective student, or a group of prospective students.

### **College Rules**

#### **1. Assembly**

College policy states that assembly in a manner that obstructs the free movement of others about the campus, inhibits the free and normal use of the College buildings and facilities, or prevents or obstructs the normal operation of the College is not permitted. Obstruction of the free flow of pedestrian or vehicular traffic on College premises or at

College-sponsored or supervised activities is included in the definition of obstruction.

## **2. Cheating**

Cheating on papers, tests or other academic works is a violation of College rules. No student shall engage in behavior that, in the judgment of the instructor of the class, may be construed as cheating. This may include, but is not limited to, plagiarism or other forms of academic dishonesty such as the acquisition without permission of tests or other academic materials and/or distribution of these materials. This includes students who aid and abet, as well as those who attempt such behavior.

## **3. Children on Campus**

Due to insurance and security purposes, children are not allowed to be on Ivy Tech property without direct supervision by parent or guardian with the exception of childcare centers. Children are not allowed in classrooms unless through the expressed consent of the Instructor.

## **4. Commitment of College Funding**

Committing College funding, including student clubs or organizations, without written approval and paperwork will result in the student being responsible for the money owed, the student being removed from the club or organization, and disciplinary action being evoked. No student shall enter into a contract with an outside agency using the name of the college. Contracts entered into in violation of this rule shall be the personal responsibility of the student.

## **5. Compliance and Identification**

Students who fail to comply with direction of College officials or law enforcement officers in the performance of their duties and/or fail to identify themselves to these persons when requested to do so are subject to disciplinary sanctions.

## **6. Discrimination Activities**

Any student involved in discrimination activities towards students or staff will face disciplinary action.

## **7. Disruptive Behavior**

Behaviors or actions that disrupt the College's processes (academic and/or non-academic) are in violation of College rules. No student shall behave in a manner that is unacceptable in a learning environment or that endangers or infringes on the rights and/or safety of himself or herself or other students, visitors, staff, patients in a clinical situation, and/or children in childcare centers at Ivy Tech. If misconduct warrants an immediate suspension from the institutional setting for the remainder of the instructional period, the instructor may do so without a prior hearing. If the student does not voluntarily leave the institutional setting, campus official(s) and/or campus security officers may remove the student from that setting upon an oral request by the instructor.

## **8. Electronic Equipment of Programs**

Use of electronic equipment or programs in a manner that is disruptive to other students, staff, or College processes is prohibited. This includes electronic equipment being played loudly. Students introducing computer viruses will be subject to disciplinary action, including dismissal.

## **9. Financial Responsibility**

Students are expected to pay all fees, fines, or loans in a timely manner. Official transcripts and copies of records will not be given to the student and degrees will not be awarded until debts to the College are paid. Students will be allowed to inspect and view transcripts and records. Students will not be allowed to register in an "owe fees" status.

## **10. Fundraising or Solicitation**

College policy requires that individuals or organizations seeking the use of campus facilities or scheduling activities to solicit funds must first obtain written approval from the appropriate College official. College rules and regulations govern fundraising activities, the money collected, and the use of the money collected by the fundraising activities. Misrepresentation, or misuse, will result in the student being responsible for the money owed to an institution or individual, in the student being removed from the club or organization, and the student facing disciplinary action.



### **11. Furnishing False Information With Intent to Deceive**

Providing false information is against College rules and state laws.

### **12. Harassment/Sexual Harassment/Stalking and/or Intimidation**

This is defined as conduct causing alarm, or creating a risk by threatening to commit crimes against persons or their property or making unwelcome sexual advances or requests for sexual favors. This also covers harassment or intimidation of persons involved in a disciplinary hearing and of persons in authority who are in the process of discharging their responsibilities. Harassment, stalking, and/or intimidation is not permitted. Perpetrators are also subject to Indiana State law.

### **13. Hazing**

Hazing, usually an initiation process into a club or organization, which often involves humiliating or otherwise harmful tasks, performances, or behaviors, is not permitted.

### **14. Inappropriate Use of College Computer Resources**

Theft or other abuse of computer time is against college rules which include but are not limited to:

- a) unauthorized entry into a file, to use, read or change the contents or for any other purpose.
- b) unauthorized transfer of a file.
- c) unauthorized use of another user's identification and password use of computing facilities to interfere with the work of another student, faculty member or college official.
- d) use of computing facilities to send, receive, or view obscene or abusive messages.
- e) use of computing facilities to interfere with normal operation of the College computing system.
- f) use of computing facilities for students' personal benefit.
- g) use of College owned computer resources to prepare or print work for commercial purposes.
- g) Inappropriate use of printers

1. Printers are intended for class-related activities. Printing Internet web pages or other information not directly related to an authorized use is prohibited.

2. Excessive printing is prohibited.

Students must follow lab guidelines limiting the number of copies or pages that may be printed.

3. Using non-approved paper in a College-owned printer is prohibited.

### **15. Motor Vehicles**

Students are expected to comply with parking regulations. Handicapped parking spaces and visitors' areas are reserved for those purposes, and vehicles improperly parked in those areas may be ticketed or towed at the owner's expense.

### **16. Safety**

No student shall engage in behavior that violates the safety rules of any institutional setting or other College premises, and/or College sponsored events whether such procedures are written or oral rules or directions. This shall include, but not be limited to, the wearing of any required personal protective equipment and the prescribed methods and procedures for handling and disposing of certain materials that may be hazardous, unstable, infectious, etc.

### **17. Signs or Surveys**

Students may erect signs, conduct surveys, or display signs or posters on designated bulletin boards.

### **18. Use of College Name**

The College name and logo are registered trademarks. The use of the College name or logo must be authorized by the officials in charge of College trademarks. Use without authorization is against College rules.

### **19. Use of College Facilities**

Students are permitted on campus during normal published Ivy Tech State College hours and at other times established in the College calendar. Students wishing to utilize College facilities at other times must request permission from the appropriate College official. Unauthorized possession, duplication, or use of keys or electronic locking devices to any College premise, or unauthorized entry to or use of College premise is against College rules.

### **20. Compliance with Indiana State Laws:**

Violation of these laws is also against



College rules and violators may also be prosecuted according to Indiana law.

*Alcoholic Beverages*

Consuming, being under the influence of, or possessing intoxicating beverages on College property is not permitted.

*Arms/Deadly Weapons/Explosives/Chemicals*

Possession of firearms (except those possessed by police or security officers) and other weapons, dangerous chemicals, or any explosive or explosive device is prohibited on College property or at any College sponsored activity held elsewhere. No student shall use or threaten to use firearms, other weapons, dangerous chemicals, or any explosive or explosive device on College property or at any College sponsored activity held elsewhere. A harmless instrument designed to look like a firearm, explosive, or weapon that is used by a person to cause fear in or assault of another person is included within the meaning of a firearm, explosive, or weapon.

*Assault and Battery, Abusive Actions, Physical and/or Verbal Altercations and /or Threatening Language*

Assault and battery, abusive actions, physical and/or verbal altercations, and/or threatening language are prohibited under College rules. Perpetrators are also subject to Indiana State law. No student shall threaten or commit a physical or sexual attack on faculty, staff or another student. No student shall force or threaten to force another student, faculty or staff member to have sexual contact against that person's will. Any student charged with assault on Ivy Tech State College property or at any College sponsored activity is subject to prosecution and will be disciplined under the campus code of student conduct

*Counterfeiting and Altering*

Copying or altering in any manner any record, document, or identification form used or maintained by the College is not permitted.

*Dumping and Littering*

No student shall deposit, dump, litter or

otherwise dispose of any refuse on college property, except in duly designated refuse depositories

*Gambling*

Gambling is not allowed except where permitted by state law or within a sanctioned program or class.

*Illegal Use of Drugs*

Being under the influence of, use of, possession of, or distributing illegal drugs is not permitted.

*Smoking*

All Ivy Tech State College buildings are classified as "non-smoking" facilities. Smoking is permitted only in designated areas.

*Theft of Property*

Theft of personal property, College property, or property located on College property is a violation of College rules.

*Vandalism*

The destruction or mutilation of Ivy Tech State College books, magazines, equipment, resources, or buildings is a violation.

**21. Repeated Offenses Of a Less Serious Nature**

Repeated offenses of a less serious nature are considered disruptive and will be handled under the College's disciplinary process.

**Violations**

The College maintains jurisdiction over matters such as, but not limited to, alcoholic beverages, illegal use of drugs, motor vehicles, assembly, soliciting, use of College facilities, the posting or erection of signs, theft, arms/deadly weapons, vandalism, physical or verbal altercations or abuses, harassment, threats and/or discrimination activities.

The College attempts to protect students from those who might violate laws and ordinances. Local, state, or federal law enforcement officials will be notified of anyone who violates local, state, or federal laws. Violators shall be subject to prosecution by the appropriate law enforcement officials.

Anyone found in violation of College regulations shall be subject to disciplinary action by the College through due process procedures for student conduct violations. The regulations and due process procedures as described in the next two parts of the

Catalog and in the Student Handbook are available for reading and review in the College Library/Learning Resource Center. Copies of the Student Handbook also are available through the Admissions Office.

### **Disciplinary Action**

A student who violates the rules and regulations of the College may be subject to any of the following disciplinary actions:

1. Verbal reprimand.
2. Restitution for damages.
3. Restriction of privileges.
4. Withdrawal from a course, program, or the College for the remainder of the semester or term.
5. Suspension from the College (one calendar year)
6. Dismissal from the College( five years; student may appeal for reinstatement)

### **Reinstatement**

If a student is dismissed from any campus/region of Ivy Tech State College, that individual is dismissed from the College. The year starts at the time/date of the official notification to the student by the Chief Administrative Officer. After one calendar year, the individual under suspension may apply for reinstatement. If the student is dismissed, the student may appeal for reinstatement after five years. The individual must begin the reinstatement appeal process by informing the chief student affairs officer at the campus where the dismissal took place of her/his intentions. The appeal for reinstatement may be applied for at any campus/region of Ivy Tech where the individual hopes to attend. The campus/region Student Status Committee will act on the appeal within thirty (30) days of its receipt. The recommendation of the Student Status Committee will be forwarded to the chief administrative officer of the campus/region. That individual will render a judgement on the appeal. That judgement will be final.

### **Student Appeals and Grievance Process**

#### **Due Process Procedures**

Due process provides the College an appropriate mechanism to deal with violation of student conduct and conversely allows a student with a disagreement

to grieve against a College employee's decision affecting that student. The intent of due process is to provide a process or procedure for unbiased review of a particular case or situation. The intent, rather than the mechanism, is the focus of this process. Thus, exceptions to the specifics and mechanisms can and will be made.

#### **Situations Where A Student May Want to Appeal**

There are three different situations in which a student may want to appeal. The three situations are:

1. A sanction (disciplinary action) has been imposed in situations of alleged student misconduct.
2. The student receives a grade but believes he or she should have a different grade. For an appeal to be necessary, the instructor must uphold the grade given. Thus a situation where there is a mistake in the written grade and the instructor revises the grade, does not require an appeal, but is just a correction.
3. The student believes that he or she has been wronged in a process and is pursuing a grievance to redress the problem. If the student believes that he or she has been discriminated against or harassed, the student should contact the Affirmative Action Officer.

### **Student Status Committee**

#### **Description of Student Status Committee**

The Student Status Committee will be composed of at least six members, including two full-time instructional staff members and two administrative staff persons appointed by the chief administrative officer of the region. The additional two members will be students designated by the Student Government Association or the chief student affairs officer. The Committee's review of a formal appeal will begin no later than thirty (30) days after receipt of the written appeal. Staff legal counsel, as needed, will be available to the committee.

#### **Due Process**

The Student Status Committee will ensure the student due process. The student has the following rights:

1. Notice of actions and meetings at all stages of

this appeal procedure;

2. An opportunity to be heard;
3. An opportunity to question witnesses at hearings;
4. An opportunity to have a representative present when presenting facts, being questioned, or asking questions.
5. An expeditious hearing of the case.
6. An explanation of the decision rendered in the case.

### **Procedure**

The student will first present a written statement to the chairperson of the Student Status Committee. The student will be invited to speak on his or her behalf to the Committee. The name of anyone the student wishes to bring to the meeting must be submitted for approval, in writing, to the Student Status Committee Chairperson at least forty-eight (48) hours prior to the meeting. Only the student who is appealing the action may address the Committee, unless otherwise allowed.

The Student Status Committee will issue a recommendation(s) to the chief administrative officer following its deliberation. The student will be informed in writing of the chief administrative officer's decision. The decision is final and binding. A copy of the letter with the chief administrative officer's decision will be filed in the student's permanent record.

### **Cases of Student Misconduct; The Student Due Process and Appeals**

Cases or appeals of student misconduct and/or lack of academic integrity that have not been resolved at a lower level are to be referred to the appropriate designee of the chief administrative officer (chief academic officer or chief student affairs officer). The College representative:

- a. will be responsible to review all initial disciplinary procedures;
- b. may suspend a student for a period of time until the Student Status Committee can meet;
- c. may withdraw the student from a course or pro-

gram or dismiss the student from the College

### **Due Process**

Students have the right of due process. Students are provided an opportunity to appeal any disciplinary decision and are required to sign a waiver if they choose to waive the right to appeal. The basic process in discipline cases is as follows: entitlement to notice of charges, notice of possible penalty, and opportunity to explain a defense to some authority.

### **Due Process Procedure**

1. An appropriate College official shall notify the student that he or she is accused of violating a regulation.
2. The student shall be notified in writing that he or she may elect one of three courses of action:
  - A. The student may admit the alleged violation and request in writing that the administrative officer takes whatever action seems appropriate. A signed waiver which waives the right to appeal is required;
  - B. The student may admit the alleged violation and request a hearing before the Student Status Committee.
  - C. The student may deny the alleged violation, in which case the administrative officer shall refer him/her to the Student Status Committee.

Unless resolved at a lower level, the Student Status Committee deals with all cases relating to disciplinary actions.

Prior to the hearing, the student will be entitled to:

- i. Written notification of the time and place of the hearing. The student shall be given the notice at least forty-eight (48) hours in advance;
- ii. A written statement of the charges of sufficient particularity to enable the student to prepare a defense;
- iii. Written notification of the names of the witness(es) directly responsible

- iv. for reporting the alleged violation, or, if there are no such witness(s), written notification of how the alleged violation was reported.

In addition to the rights described in the Student Status Committee section, the student shall not be required to testify against him or herself.

### **Student Academic Appeals Process**

#### **Student Appeals of a Grade or Status**

When a student sincerely thinks the final grade he or she received in a course is inaccurate or unjustified, he or she should make an appointment with the instructor who issued the grade or status and explain the reasons for this belief. This process must be initiated within thirty (30) days of receiving the grade. The instructor and the student should make every effort to resolve the issue. It is expected that most, if not all, misunderstandings will be resolved at this level.

If the grade or status issue is not resolved, the student can appeal in writing to the instructor's supervisor. This individual may be the department chairperson or program chairperson. Once the student has appealed the grade or status with the program chairperson, if the issue is not resolved to the student's satisfaction the student may appeal to the department chairperson, assistant division chairperson, or the division chairperson, whoever is next in line.

The student's next recourse is to appeal to the chief academic officer. If the student feels further appeal is necessary, he or she may appeal to the Student Status Committee. (See Student Status Committee section.)

### **Student Grievance Policy**

In some instances a student may believe that he or she has been wronged in a process and wishes to pursue a grievance to redress the situation. The College provides such a review and mechanism.

#### **Due Process**

Due process entitles the student to:

1. Be heard in person;
2. Receive an expeditious hearing of the grievance.

### **Informal Process**

The first step of the informal process involves the student working one-on-one with appropriate faculty or staff. The student should first bring the complaint to the attention of his/her instructor or the person with whom the student has a complaint. The person with whom the student has a complaint will schedule a conference within ten (10) instructional days of the notice of the complaint. However, if the student feels that the conference would be futile because of that person's involvement or the situation/concern cannot be resolved with the instructor or staff of whom the student had the complaint he or she should bring the grievance in writing to the supervisor of that area or department. If the complaint is based upon perceived discrimination or harassment (race, color, creed, age, religion, sex, disability, or sexual harassment), the complaint should be made to the campus affirmative action officer.

If the grievance is not resolved with an instructor, the student may elect to request a conference with a department head, division chair of the chief academic officer, as deemed appropriate.

Non-instructional areas follow the same process. Through Student Affairs, for example, the process would be counselors, then manager, and finally the chief student affairs officer.

### **Formal Grievance Process**

If the complaint is not resolved to the student's satisfaction through the first two steps, he/she may submit the grievance in writing to the Student Status Committee. The Student Status Committee is responsible for review and disposition of any such grievance forwarded to it.

The formal grievance brought by a student must:

- A. Clearly state the facts giving rise to the grievance.
- B. State the remedy sought by the complaining party.
- C. Be signed and dated.

The disposition of a formal grievance may be one of the following:

A. Refuse further action: if no prima facie case has been made by the complainant the matter will be refused in writing to said grievant with reasons for this action. The student may resubmit the complaint once within thirty (30) days providing there is additional information to be submitted. If not, the decision is final.

B. Fact-finding and mediation: the Committee itself can engage in investigation of the allegation as an attempt to mediate with parties a mutually agreeable resolution of the matter: a signed agreement should be generated summarizing the issue and resolution, if the agreement is reached.

C. Referral: the complaint may be referred to a more appropriate forum for action.

1. If a discrimination complaint, it should be referred to the affirmative action officer to be initially processed under the College Affirmative Action Plan.

If a hearing is necessary, the affirmative action officer may return the matter, with advice, to the Student Status Committee for a formal hearing.

2. If the Committee believes a policy or procedure of the College is being legitimately challenged; it will refer the grievance to the chief administrative officer of the campus with an explanation of its concern.

D. Remand complaint: if it appears no legitimate informal attempt to resolve the matter has taken place and it appears such discussion might lead to resolution of the complaint, then referral of the matter to the student advisor or other appropriate staff person for review and discussion with the student would be in order. If resolved, such staff person will make a report to the Student Status Committee. The Student Status Committee will review the agreement reached with the student to assure that in fact there was mutual agreement and understanding.

E. Hold formal hearings: if a grievance cannot be resolved utilizing the steps listed above, the committee may hold a formal hearing. If held, witnesses may be called, including the parties to the complaint. A recommendation will then be formulated and a report made to the chief administrative officer of the campus of the suggested resolution of the matter.

The above are the policies and procedures at the time of printing. They may be changed without notice.

If you need further information regarding the due process procedure and the student grievance policy, please contact the chief student affairs officer.

### **Accreditation**

Ivy Tech State College is an accredited member of the North Central Association of Colleges and Schools.

### **Professional Accreditations:**

Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA)

American Culinary Federation Educational Institute  
American Institute for Design and Drafting

Commission on Accreditation of Allied Health Education Programs (CAAHEP) with selected professional groups including:

- Joint Review Committee on Education Radiologic Technology
- Accrediting Review Committee for Educational Programs in Surgical Technology
- Joint Review Committee for Respiratory Therapy Education

Association of Collegiate Business Schools and Programs

Council for Standards in Human Services Education  
Federal Aviation Administration Collegiate Training Initiative Electronics Program

National Academy of Early Childhood Programs

National Association of Industrial Technology

National Automotive Technician Education Foundation, Inc.

National League of Nursing



**Approved By:**

Chef de Cuisine Association of Indiana, Inc.  
Indiana Commission on Vocational and Technical  
Education

Indiana State Board of Nursing  
Indiana State Board of Health (Qualified Medication  
Aide, Nurse Aide, Social Service/Long Term Care)

**Non-Discrimination Policy and Equal  
Opportunity Affirmative Action Plan**

Ivy Tech State College seeks to develop degree programs, courses and community service offerings to provide open admission; counseling and placement services for all persons, regardless of race, color, religion, gender, national origin, physical or mental handicap, age or veteran status.

Questions can be addressed to: Director of Human  
Resources: (317) 921-4762

**Fire/Tornado**

In case of fire, please remain calm and move in an orderly fashion to the nearest exit. After you leave the building, move a safe distance away. In a tornado warning, it is usually wise to move to a room in a lower level away from a glass window.

**Hazardous Waste and Chemical Exposure**

Some courses, such as chemistry and physics, may present the possibility for exposure to substances that have potential for health hazards. Faculty teaching such a course will include specific information pertaining to potential exposure in the course syllabus and appropriate safety information will be presented to reduce the risk. Any person present near chemicals (including waste) would realize that they are voluntarily exposing themselves to these substances. Precautions, such as changing routes so as not to pass near the exposure areas or delaying enrolling or not enrolling in a class, may be necessary. These precautions are especially important for people with sensitive medical conditions which could make exposure to the substance mentioned above especially dangerous. In particular, women who are in their first trimester of pregnancy would avoid exposure. Any time the potential exists for exposure to substances, protective clothing will be required.

**Non-Smoking Policy**

It is the policy of this College, as mandated by the policy to prohibit smoking within the College buildings. Please use the containers located outside the exterior and extinguish your cigarettes, etc.

**Lounge/Food Service**

Sandwich, soft drink, and candy machines are located in the student lounge areas. Students also have a microwave oven and pay phones. Food items are not to be taken out of the lounge areas. Please use trash containers to keep tables clean. Change machines are located in the student lounge in both buildings.

**Parking and Housing**

Rearview mirror parking hang-tags are provided to students free of charge. Since Ivy Tech State College is a commuter college, there are no residence halls. Information on transportation options and housing options may be obtained from the Admissions Office. There is a \$5.00 replacement fee for parking tags.

# Business and Technology Division

## Accounting Technology

### Degrees Available:

- *Associate of Applied Science (60Credits)*
- *Associate of Science (60 Credits)*

In the Accounting Program, students develop an understanding of accounting principles, business communications, business equipment and related areas of study in the field. Instruction is offered in computerized accounting systems. Technical skills in financial accounting, cost accounting, and tax preparation are emphasized.

Accounting includes maintaining journals and ledgers, processing banking transactions, billing, preparing payroll, maintaining inventory records, purchasing, processing expense reports, preparing financial statements, analyzing managerial reports. Job titles include junior or staff accountant, junior auditor, cost accounting clerk, bookkeeper, payroll clerk, inventory clerk, accounts receivable clerk, and financial management trainee.

A two-year program requiring 60 credits leads to an Associate in Applied Science degree or an Associate in Science. Career development certificates also are available.

# Accounting Technology - Associate of Science

To earn this degree, you must have 60 credits.

General Education Core .....24

Technical Core .....18

Specialty Core .....18

## General Education Core 24 Credits

COM	101	Fundamentals of Public Speaking	3
ECN	101	Economic Fundamentals	3
ENG	111	English Composition	3
ENG	112	Exposition and Persuasion	3
POL	101	Introduction to American Government and Politics	3
MAT	111	Intermediate Algebra	3
SOC	111	Introduction to Sociology	3
XXX	XXX	Life/Physical Sciences Elective	3

## Technical Core 18 Credits

ACC	101	Accounting Principles I	3
ACC	102	Accounting Principles II	3
BUS	101	Introduction to Business	3
BUS	102	Business Law	3
CIS	101	Introduction to Microcomputers	3
OAD	218	Electronic Spreadsheets in Business	3

## Specialty Core 18 Credits

ACC	105	Income Tax I	3
ACC	201	Intermediate Accounting I	3
ACC	202	Intermediate Accounting II	3
ACC	203	Cost Accounting I	3
ACC	209	Auditing	3
ACC	225	Integrated Accounting Software	3

**Total 60 Credits**

# Accounting Technology - Associate of Applied Science

To earn this degree, you must have 60 credits.

General Education Core . . . . .	18
Technical Core . . . . .	18
Specialty Core . . . . .	15
Regionally Determined Core . . . .	9

General Education Core			18 Credits
COM	101	Fundamentals of Public Speaking	3
ECN	101	Economic Fundamentals	3
ENG	111	English Composition	3
MAT	110	Contemporary College Mathematics or	
MAT	111	Intermediate Algebra	3
XXX	XXX	Life/Physical Sciences Elective	3
XXX	XXX	Humanities/Social Sciences Elective	3

Technical Core 18 Credits			
ACC	101	Accounting Principles I	3
ACC	102	Accounting Principles II	3
BUS	101	Introduction to Business	3
BUS	102	Business Law	3
CIS	101	Introduction to Microcomputers	3
OAD	218	Electronic Spreadsheets in Business	3

Specialty Core			15 Credits
ACC	105	Income Tax I	3
ACC	201	Intermediate Accounting I	3
ACC	202	Intermediate Accounting II	3
ACC	203	Cost Accounting I	3
ACC	225	Integrated Accounting Software	3

Regionally Determined Core (Pick from courses below.)			9 Credits
ACC	106	Payroll Accounting	3
ACC	206	Managerial Accounting	3
ACC	209	Auditing	3
ACC	288	Bridge to Intermediate Accounting	1
BUS	105	Principles of Marketing	3
BUS	210	Managerial Finance	3
CIS	207	Access Database	3
MKT	101	Marketing	3

<b>Total</b>			<b>60 Credits</b>
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# Automotive Service Technology

## Degrees Available:

- Associate of Applied Science (66 Credits)

## Specialties:

*Automotive Service*  
*ASSET - Ford Motor Company*  
*ASEP - General Motors*  
*T-TEN - Toyota*

The Automotive Technology Program prepares students with the general and technical education needed for successful careers in automotive service, sales, technical support, management and customer relations, and for continuation in higher education.

### ASSET - Ford Motor Company Specialty

ASSET is a joint effort of Ford Motor Company, Ford and Lincoln-Mercury dealers, and Ivy Tech. It is a two-year program designed to develop entry-level service technicians for Ford and Lincoln-Mercury dealerships. The ASSET program has been carefully designed to provide Ford and Lincoln-Mercury dealerships and their customers with well-qualified, Ford-trained and certified service technicians who are proficient in the latest automotive service technologies and methods. In addition, the program: 1) ensures that ASSET-trained service technicians are able to understand and work with new systems and components as they are introduced; 2) enables ASSET-trained personnel to make rapid advancement in their career paths - after additional dealership experience.

### ASEP - General Motors Specialty

The ASEP program is a two-year automotive program designed to upgrade the technical competence and professional level of the incoming dealership technician. The program has been designed by General Motors and Ivy Tech to offer the latest technical information through classroom lectures and laboratory sessions followed with cooperative work experience in a sponsoring General Motors dealership.

### Toyota Specialty

T-TEN is a joint effort of Toyota Motor Sales, USA and Ivy Tech. The Toyota Technical Network has been developed to fill the growing need for technically competent apprentice technicians for dealerships. Through a cooperative link with Ivy Tech, Toyota will offer a variety of unique education benefits: 1) Latest Toyota Training Courses and Instructional Materials; 2) Dealership work-study opportunity; 3) Student scholarships; 4) Dealership Placement Assistance; 5) State-of-the-art training components and vehicles; and 6) Students will earn an Associate of Applied Science degree and Toyota certification.



# Automotive Service - Associate of Applied Science

To receive this degree, you must earn 66 credits.

General Education Core	18
Technical Core	15
Specialty Core	33

General Education Core		18 Credits
*COM XXX	Communications Elective	3
ENG 111	English Composition	3
MAT 112	Functional Mathematics	3
SCI 111	Physical Science	3
ELECTIVE:	Humanities/Social Sciences	3
ELECTIVE:	General Education	3

Technical Core		15 Credits
AMV 101	Chassis and Suspension Principles	3
AMV 113	Electricity for Transportation	3
AMV 202	Computer Engine Controls	3
AST 201	Heating and Air Conditioning Principles	3
AST 220	Transaxle and Driveline Service	3

Specialty Core		33 Credits
AST 105	Fuel Systems	3
AST 201	Heating & Air Conditioning Principles	3
AST 209	Automotive Braking Systems	3
AST 220	Differentials and Drivelines	3
AST 102	Two-Four Wheel Alignment	3
AST 104	Start, Charge and Accessory Systems	3
AST 203	Engine Rebuild	3
AST 204	Automatic Transmission/Transaxle	3
AST 205	Manual Transmission/Transaxle	3
AST 207	Advanced Engine Performance	3
AST 288	Advanced Electronic Systems	3

**Total** **66 Credits**

Accredited by the Accreditation Board of the National Association of Industrial Technology (NAIT) and in all eight areas of the Automotive Service Excellence (ASE) by the National Automotive Technicians Education Foundation (NATEF).

# Ford ASSET\* Specialty - Associate of Applied Science

To receive this degree, you must earn 66 credits.

General Education Core	18
Technical Core	15
Specialty Core	33

<b>General Education Core</b>		<b>18 Credits</b>
COM 101	Fundamentals of Public Speaking	3
ENG 111	English Composition	3
MAT 112	Functional Mathematics	3
SCI 111	Physical Science	3
ELECTIVE:	Humanities/Social Sciences	3
ELECTIVE:	General Education	3

<b>Technical Core</b>		<b>15 Credits</b>
AMV 101	Chassis and Suspension Principles	3
AMV 113	Electricity for Transportation	3
AMV 202	Computer Engine Controls	3
AST 201	Heating and Air Conditioning Principles	3
AST 220	Transaxle and Driveline Service	3

<b>Specialty Core</b>		<b>33 Credits</b>
AMV 107	Ford Engine Principles & Design	3
AST 105	Ford Fuel Systems	3
AST 108	Electrical Accessory Systems	3
AST 203	Engine Rebuild	3
AST 204	Automatic Transmission/Transaxle	3
AST 205	Manual Transmission/Transaxle	3
AST 207	Engine Performance	3
AST 209	Automotive Braking Systems	3
AST 280	Co-op/Internship	3
AST 221	Driveability Diagnosis	3
AST 225	Advanced Electronics	3

**Total** **66 Credits**

Note: ASSET-Automotive Service Education Training  
Accredited by the Accreditation Board of the National Association  
of Industrial Technology (NAIT) and in all eight areas of the  
Automotive Service Excellence (ASE) by the National Automotive  
Technicians Education Foundation (NATEF).

\* The Automotive Student Service Educational Training program.

# General Motors ASEP\* - Associate of Applied Science

To receive this degree, you must earn 66 credits.

General Education Core	18
Technical Core	15
Specialty Core	33

<b>General Education Core</b>		<b>18 Credits</b>
*COM XXX	Communications Elective	3
ENG 111	English Composition	3
MAT 112	Functional Mathematics	3
SCI 111	Physical Science	3
ELECTIVE:	Humanities/Social Sciences	3
ELECTIVE:	General Education	3

<b>Technical Core</b>		<b>15 Credits</b>
AMV 101	Chassis and Suspension Principles	3
AMV 113	Electricity for Transportation	3
AMV 202	Computer Engine Controls	3
AST 201	Heating and Air Conditioning Principles	3
AST 220	Transaxle and Driveline Service	3

<b>Specialty Core</b>		<b>33 Credits</b>
AMV 107	Engine Principles & Design	3
AST 105	GM Fuel Systems	3
AST 108	Electrical Accessory Systems	3
AST 203	Engine Rebuild	3
AST 204	Automatic Transmission/Transaxle	3
AST 205	Manual Transmission/Transaxle	3
AST 207	Engine Performance	3
AST 209	Automotive Braking Systems	3
AST 280	Co-op/Internship	3
AST 221	Driveability Diagnosis	3
AST 225	Advanced Electronics	3

**Total** **66 Credits**

Note: STG- Service Technology Group  
Accredited by the Accreditation Board of the National Association of Industrial Technology (NAIT) and in all eight areas of the Automotive Service Excellence (ASE) by the National Automotive Technicians Education Foundation (NATEF).<sup>1</sup>

\*The Automotive Service Educational Program

# Toyota T-TEN\* Specialty - Associate of Applied Science

To receive this degree, you must earn 66 credits.

General Education Core	18
Technical Core	15
Specialty Core	33

<b>General Education Core</b>		<b>18 Credits</b>
*COM XXX	Communications Elective	3
ENG 111	English Composition	3
MAT 112	Functional Mathematics	3
SCI 111	Physical Science	3
ELECTIVE:	Humanities/Social Sciences	3
ELECTIVE:	General Education	3

<b>Technical Core</b>		<b>15 Credits</b>
AMV 101	Chassis and Suspension Principles	3
AMV 113	Electricity for Transportation	3
AMV 202	Computer Engine Controls	3
AST 201	Heating and Air Conditioning Principles	3
AST 202	Transaxle and Driveline Service	3

<b>Specialty Core</b>		<b>33 Credits</b>
AST 105	Fuel Systems	3
AST 201	Climate Control	3
AST 209	Braking Systems	3
AST 220	Transmission and Driveline Service	3
AST 102	2/4 Wheel Alignment	3
AST 104	Start, Charge and Accessory Systems	3
AST 203	Engine Repair	3
AST 204	Automatic Transmission/Transaxle	3
AST 205	Manual Transmission/Transaxle	3
AST 207	Advanced Engine Performance	3
AST 288	Advanced Electronic Systems	3

**Total** **66 Credits**

Accredited by the Accreditation Board of the National Association of Industrial Technology (NAIT) and in all eight areas of the Automotive Service Excellence (ASE) by the National Automotive Technicians Education Foundation (NATEF).

\* The Toyota Technical Educational Network.

# Business Administration

**Degrees Available:** *Specialties:*  
**● Associate of Applied Science (60 Credits)**  
**● Associate of Science (63 Credits)**  
**Management and Marketing**

The Business Administration Program gives students the broad background they need for general administrative positions in a variety of business environments. It also provides an opportunity for specialization. A student in the Business Administration Program may specialize in management or marketing.

A two-year program requiring 60 credits leads to an Associate of Applied Science degree. A two-year Associate of Science degree can also be obtained with 63 credits. Career development certificates also are available.

## Business Administration - Associate of Science

To receive this degree, you must earn 63 credits:

General Education Core .....36  
 Technical Core .....27

Students who wish to pursue their BS degree in Business Administration at Indiana State University and desire to take their first two years of that program at Ivy Tech State College should follow this curriculum.

General Education Core			36 Credits
COM	101	Fundamentals of Public Speaking	3
ENG	111	English Composition	3
ENG	211	Technical Writing	3
MAT	111	Intermediate Algebra	3
XXX	XXX	Life/Physical Sciences/Math Elective	3-6
XXX	XXX	Humanities	9-12
XXX	XXX	Social Sciences	9-12
Technical Core			27 Credits
ACC	101	Accounting Principles I	3
ACC	102	Accounting Principles II	3
BUS	101	Introduction to Business	3
BUS	102	Business Law	3
BUS	110	Business Statistics	3
CIS	101	Introduction to Microcomputers	3
CIS	102	Information Systems	3
ECN	201	Principles of Macroeconomics	3
ECN	202	Principles of Microeconomics	3
Total			63 Credits



# Management and Marketing - Associate of Applied Science

To receive this degree, you must earn 60 credits:

General Education Core	18
Technical Core	18
Specialty Core	12
Regionally Determined Courses	12

Choose one of the following specialties:

or

<b>General Education Core</b>			<b>18 Credits</b>
COM	101	Fundamentals of Public Speaking	3
ECN	XXX	Economics Elective	3
ENG	111	English Composition	3
MAT	110	Contemporary College Mathematics OR	
MAT	111	Intermediate Algebra	3
XXX	XXX	Life/Physical Sciences Elective	3
XXX	XXX	Humanities/Social Sciences Elective	3

<b>Technical Core</b>			<b>18 Credits</b>
ACC	101	Accounting Principles I	3
BUS	101	Introduction to Business	3
BUS	102	Business Law	3
BUS	105	Principles of Management	3
CIS	101	Introduction to Microcomputers	3
MKT	101	Principles of Marketing	3

<b>Management Specialty Core</b>			<b>12 Credits</b>
BUS	202	Human Resource Management	3
BUS	204	Case Problems in Management	3
BUS	208	Organizational Behavior	3
BUS	210	Managerial Finance	3

<b>Management Regionally Determined Core</b>			<b>12 Credits</b>
BUS	203	Business Development	3
MKT	202	Logistics/Purchasing Control	3
QSC	204	Total Quality Management	3
OPM	224	Operations Management	3

<b>Marketing Specialty Core</b>			<b>12 Credits</b>
BUS	204	Case Problems in Management	3
MKT	104	Promotions	3
MKT	201	Introduction to Market Research	3
MKT	220	Principles of Retailing	3

<b>Marketing Regionally Determined Core</b>			<b>12 Credits</b>
BUS	208	Organizational Behavior	3
MKT	102	Principles of Selling	3
MKT	202	Logistics/Purchasing Control	3
OPM	224	Operations Management	3

<b>Total</b>			<b>60 Credits</b>
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# Computer Information Systems

## Degrees Available:

- Associate of Applied Science  
(60 Credits)

## Specialties:

*Programmer Analyst*  
*PC Support and Administration*  
*Networking*

### *Programmer Analyst Specialty:*

The programmer analyst curriculum is designed to prepare the graduate to be a business applications computer programmer. Applications programmers convert a design for a computer system into instructions for the computer. They are responsible for testing, debugging, documenting and implementing programs.

### *PC Support and Administration Specialty:*

The curriculum is designed to prepare the graduate for employment as a PC systems administrator or help desk technician in a small to medium-sized organization. Personal computer technicians should be able to handle a variety of jobs related to the personal computer in a business, government or service organization. The trained technician should be able to successfully solve problems associated with the installation and use of applications and operations systems software as well as installing microcomputer hardware components and diagnosing hardware problems. The study of business on the Internet is a component of this curriculum. Microcomputer applications, Windows operating system, hardware/software troubleshooting and Internet web page design are some of the specific courses in this program. Data communications, systems

analysis and design, local area networks and relational database are also included in the PC Support and Administration curriculum.

### *Networking Specialty:*

The rapid development and implementation of communications and networking technology have been major factors in the evolution of connectivity both in the United States and around the world. The ability to connect a personal computer into another system of computers and peripherals requires the skill of a highly qualified network specialist. The Networking Specialty in the Computer Information Systems Technology program is designed to prepare the student for many of the challenging job opportunities in this technical field. Emphasis is on how "computer networks" are designed, installed and maintained. The Computer Information Systems Technology Program is a Novell Education Academic Partner, a Microsoft - Authorized Training Partner and a CISCO - Regional Academy. By successfully completing selective networking specialty courses, students will have demonstrated that they have a solid understanding of networking technology and may become candidates for professional certification exams either in the Novell CNE or Microsoft MCSE programs.

# Programmer Analyst - Associate of Applied Science

To receive this degree, you must  
earn 60 credits:

General Education Core	18
Technical Core	18
Specialty Core	12
Regionally Determined Courses	12

<b>General Education Core</b>			<b>18 Credits</b>
COM	101	Fundamentals of Public Speaking	3
*ECN	101	Economics Fund. or Economics Elective	3
ENG	111	English Composition	3
**MAT	112	Functional Mathematics	3
		OR	
**MAT	111	Intermediate Algebra	3
SCI	111	Physical Science or Life/Physical Science Elec.	3
SOC	101	Sociology or Humanities/Social Sciences Elec.	3

<b>Technical Core</b>			<b>18 Credits</b>
ACC	101	Accounting Principles I	3
BUS	101	Introduction to Business	3
CIS	101	Introduction to Microcomputers	3
CIS	102	Information Systems Fundamentals	3
CIS	106	Microcomputer Operating Systems	3
***CIS	203	Systems Analysis and Design	3

<b>Specialty Core</b>			<b>12 Credits</b>
CIS	113	Logic, Design and Programming	3
CIS	120	Programming I - COBOL	3
CIS	201	Database Design and Management	3
CIS	217	Programming II - COBOL	3

<b>Regionally Determined Core</b>			<b>12 Credits</b>
CIS	232	Visual Basic	3
CIS	202	Data Communications	3
*CIS	XXX	CIS Elective	3
*CIS	XXX	CIS Elective	3

**Total** **60 Credits**

- \* Elective is defined as a course chosen by the student from the inventory of courses available on a campus.
- \*\* Choice of the mathematics course is regionally determined
- \*\*\* Capstone Course (Course that summarizes previous course experience)

# PC Support & Administration - Associate of Applied Science -

To receive this degree, you must earn 60 credits:

General Education Core	18
Technical Core	18
Specialty Core	12
Regionally Determined Courses	12

<b>General Education Core</b>			<b>18 Credits</b>
COM	101	Fundamentals of Public Speaking	3
*ECN	101	Economics Fund. or Economics Elective	3
ENG	111	English Composition	3
**MAT	112	Functional Mathematics	3
	OR		
**MAT	111	Intermediate Algebra	
SCI	111	Physical Science or Life/Physical Science Elective	3
SOC	101	Sociology or Humanities/Social Sciences Elective	3
<b>Technical Core</b>			<b>18 Credits</b>
ACC	101	Accounting Principles I	3
BUS	101	Introduction to Business	3
CIS	101	Introduction to Microcomputers	3
CIS	102	Information Systems Fundamentals	3
CIS	106	Microcomputer Operating Systems	3
***CIS	203	Systems Analysis and Design	3
<b>Specialty Core</b>			<b>12 Credits</b>
CIS	202	Data Communications	3
CIS	224	Hardware/Software Troubleshooting	3
CIS	251	Advanced Operating Systems	3
CIS	252	Web Site Development	3
<b>Regionally Determined Core</b>			<b>12 Credits</b>
CIS	207	Micro Database Management Systems	3
CIS	XXX	CIS Elective	3
*CIS	XXX	CIS Elective	3
*CIS	XXX	CIS Elective	3
<b>Total</b>			<b>60 Credits</b>

\* Elective is defined as a course chosen by the student from the inventory of courses available on a campus.

\*\* Choice of the mathematics course is regionally determined

\*\*\* Capstone Course (Course that summarizes previous course experience)

# Networking - Associate of Applied Science

To receive this degree, you must earn 60 credits:

General Education Core	18
Technical Core	18
Specialty Core	12
Regionally Determined Courses	12

<b>General Education Core</b>			<b>18 Credits</b>
COM	101	Fundamentals of Public Speaking	3
*ECN	101	Economics Fund. or Economics Elective	3
ENG	111	English Composition	3
**MAT	112	Functional Mathematics	3
		OR	
**MAT	111	Intermediate Algebra	
SCI	111	Physical Science or Life/Physical Science Elec.	3
SOC	101	Sociology or Humanities/Social Sciences Elec.	3
<b>Technical Core</b>			<b>18 Credits</b>
ACC	101	Accounting Principles I	3
BUS	101	Introduction to Business	3
CIS	101	Introduction to Microcomputers	3
CIS	102	Information Systems Fundamentals	3
CIS	106	Microcomputer Operating Systems	3
***CIS	203	Systems Analysis and Design	3
<b>Specialty Core - Novell Option/Windows NT Option</b>			<b>6 Credits</b>
CIS	202	Data Communications	3
CIS	224	Hardware/Software Troubleshooting	3
<b>Regionally Determined Core (Novell)</b>			<b>18 Credits</b>
*CIS	243	Novell Network Administration I	3
*CIS	244	Novell Network Administration II	3
*CIS	246	Novell Network Hardware Service & Support	3
CIS	247	Novell Network Administration III	3
CIS	245	Novell Network Technologies Concepts	3
CIS	249	Novell Wide Area Networks	3
<b>Regionally Determined Core (Windows NT)</b>			<b>18 Credits</b>
CIS	263	Windows NT Network Administration I	3
CIS	264	Windows NT Network Administration II	3
CIS	266	Windows NT Network Hard. Support/Service	3
CIS	288	Windows NT Enterprise Administration	3
CIS	288	Windows NT TCP/IP Support	3
CIS	288	Windows NT Internet Server Support	3
<b>Total</b>			<b>60 Credits</b>



# Computer Information Systems

## Electives for Speciality Cores

X=may be selected for that speciality

		Programmer Analyst	PC Systems/Administrator	Networking
CIS 107	Microcomputer Programming	X	X	-
CIS 109	UNIX Operating Systems	X	X	-
CIS 110	BASIC Programming Language	X	-	-
CIS 113	Logic, Design and Programming	-	X	-
CIS 114	Principles of Management Information Systems	X	X	-
CIS 116	Introduction to Java Programming	X	X	-
CIS 120	Programming I - COBOL	-	X	-
CIS 206	Project Development with High Level Tools	X	X	-
CIS 207	Microcomputer Database Management Systems	X	-	-
CIS 209	Computer Business Applications	X	X	-
CIS 211	RPG/400 Programming	X	-	-
CIS 212	C++ Programming	X	X	-
CIS 213	Assembler Language Programming	X	-	-
CIS 215	Field Study	X	X	-
CIS 216	Advanced RPG/400 Programming	X	-	-
CIS 221	Advanced C++ Programming	X	-	-
CIS 223	Integrated Business Software	X	X	-
CIS 225	Advanced Database Management Systems	X	X	-
CIS 227	Topics in Information Management	X	X	X
CIS 228	Cooperative Education	X	X	X
CIS 231	Structured Query Language	X	X	-
CIS 232	Visual BASIC	-	X	-
CIS 233	Graphic User Interfaces: Windows	X	X	-
CIS 235	Network Fundamentals	X	X	-
CIS 251	Advanced Operating Systems	X	-	-
CIS 252	Create an Internet World Wide Web Site	-	X	-
CIS 253	Graphic Image Lab	X	X	-
CIS 255	Network Operating Systems	X	X	X
CIS 256	LAN/Data Communications	X	X	-
CIS 258	Network Communications and Connectivity	X	X	-
CIS 280	CO-OP/Internship	X	X	X
CIS 288	Special Topics In Computer Information Systems	X	X	X
CIS 292	Advanced Visual Basic	X	-	-

## Design Technology

### Degrees Available:

- Associate of Applied Science (64 Credits)

### Specialties:

Architecture

Civil

Mechanical

Computer Graphics

CAD/CAM

The Design Technology Program is competency-based and is designed to be responsive to the needs of business and industry. The program provides an environment conducive to the development of general knowledge, technical skills and critical thinking skills so graduates may enter their profession as entry level technicians. They will also be prepared to respond to future advances and changes in their profession. Included is a blend of traditional “board” techniques with the latest hardware and software used in industry today. This balance of skills in both areas provides students with the diversity necessary to be competitive in the job market. Graduates will have the necessary skills to choose related careers or continue their education at other postsecondary institutions.

Technical and career development certificates also are available.

- The College is accredited by the North Central Association of Colleges and Universities.
- All specialties are accredited by the National Association of Industrial Technology (NAIT) .
- The Architectural and Mechanical Specialties are accredited at the design level by the American Design and Drafting Association.

# Design Technology - Associate of Applied Science

To receive this degree, you must earn 64 credits:

General Education Core	19
Technical Core	18
Specialty Core	27

Choose one of the following specialties: →

General Education Courses		19 Credits
COM 101	Fundamentals of Public Speaking	3
ENG 111	English Composition	3
MAT 111	Intermediate Algebra	3
MAT 121	Geometry/Trigonometry	3
PHY 101	Physics I	4
ELECTIVE: Choose one from the following:		
ECN 101, ECN 201, ECN 202, ETH 101, PHL 101		
POL 101, PSY 101, OR SOC 111		3

Technical Core Courses		18 Credits
DSN 103	CAD Fundamentals	3
DSN 106	Descriptive Geometry	3
DSN 220	Advanced CAD	3
DSN 221	Statics	3
TEC 102	Technical Graphics	3
TEC 104	Computer Fundamentals for Technology	3

Civil Specialty and Determined Core		27 Credits
DCT 109	Construction Materials and Specifications	3
DCT 208	Structural Detailing	3
DCT 210	Surveying I	3
DCT 213	CAD Mapping	3
DCT 113	Intermediate CAD	3
DCT 230	Fundamentals of Animation	3
DCT 228	Civil I	3
DCT 229	Civil II	3
DSN 222	Strength of Materials	3

Architectural Specialty and Determined Core		27 Credits
DCT 105	Facilities Design and Layout	3
DCT 109	Construction Materials and Specifications	3
DCT 204	Architectural CAD	3
DCT 208	Structural Detailing	3
DCT 113	Intermediate CAD	3
DCT 206	Mechanical and Electrical Equipment	3
DCT 210	Surveying I	3
DCT 230	Fundamentals of Animation	3
DSN 222	Strength of Materials	3

Computer Graphic Specialty and Determined Core		27 Credits
ART 111	Drawing for Visualization	3
ART 114	Graphic Design	3
VIS 101	Fundamentals of Design	3
ART 116	Electronic Illustration	3
ART 112	Electronic Layout	3
DCT 113	Intermediate CAD	3
VIS 102	Fundamentals of Imaging	3
VIS 105	Video and Sound	3
VIS 209	3 D Rendering and Animation	3

→	<b>Mechanical Specialty and Determined Core</b>			<b>27 Credits</b>
	DCT	104	Product Drafting	3
	DCT	230	Fundamentals of Animation	3
	DCT	217	Product Design	3
	TEC	101	Manufacturing Processes	3
	DCT	105	Facilities Design and Layout	3
	DCT	113	Intermediate CAD	3
	DCT	201	Schematic Drafting	3
	DCT	216	Jig and Fixture Design	3
	DSN	222	Strength of Materials	3
→	<b>CAD/CAM Specialty and Determined Core</b>			<b>27 Credits</b>
	DCT	113	Intermediate CAD	3
	MTT	102	Turning Processes	3
	MTT	103	Milling Processes	3
	MTT	208	CNC Programming I	3
	MTT	209	CNC Programming II	3
	MTT	220	CAD/CAM I	3
	MTT	221	CAD/CAM II	3
	TEC	101	Manufacturing Processes	3
	DSN	222	Strength of Materials	3
	<b>Total</b>			<b>64 Credits</b>

## Design Technology - Technical Certificate

To receive this degree, you must earn 33 credits:

General Education Core	6
Technical Core	3
Specialty Core	6
Regionally Determined Core	18

<b>General Education Courses</b>			<b>6 Credits</b>
ENG	111	English Composition	3
MAT	111	Intermediate Algebra	3
<b>Technical Core Courses</b>			<b>3 Credits</b>
TEC	104	Computer Fundamentals for Technology	3
<b>Specialty Core</b>			<b>6 Credits</b>
DSN	103	CAD Fundamentals	3
TEC	102	Technical Graphics	3
<b>Regionally Determined Core</b>			<b>18 Credits</b>
DCT	104	Product Drafting	3
DCT	105	Facilities Design and Layout	3
DCT	113	Intermediate CAD	3
DSN	106	Descriptive Geometry	3
Elective: Humanities/Social Sciences			3
<b>Students should select three (3) credits from the following:</b>			
DCT	109	Construction Materials and Specifications	3
TEC	101	Manufacturing Processes	3
<b>Total</b>			<b>33 Credits</b>

# Electronics Technology

## Degrees Available:

- Associate of Applied Science (65 Credits)
- Associate of Science (66 Credits)

## Specialties:

*Communications*

*Industrial Electronics Specialty*

This program provides the student with AC/DC electronic skills and advances into circuit theory and application of solid state devices, digital principles, electronic communications and computer systems. This two-year Associate of Applied Science degree program should enable a graduate to seek employment as an electronics or computer technician, electronics equipment installer, technician, antenna or cable installer, computer and peripherals technician, network installer, radio or high frequency equipment repairman.

Students learn AC/DC electronic skills and advances into circuit theory and application of solid state devices, digital principles, and industrial programmable controls and systems. This two-year Associate of Applied Science degree program should enable a graduate to seek employment as an electronic industrial technician, electronic equipment installer, a process control technician, an automated manufacturing systems installer and technician, calibration, and instrumentation technician.



# Electronics Technology - Associate of Applied Science

To receive this degree, you must earn 65 credits.

General Education Core	19
Technical Core	34
Specialty Core	12

General Education Core			19 Credits
COM	101	Fundamentals of Public Speaking	3
ENG	111	English Composition	3
MAT	131	Algebra/Trigonometry I	3
MAT	132	Algebra/Trigonometry II	3
PHY	101	Physics I	4
ELECTIVE:		Humanities/Social Sciences	3

Technical Core			34 Credits
ELT	120	Introduction to Electronics	3
ELT	121	Circuits I	3
ELT	122	Circuits II	3
ELT	124	Digital I	3
ELT	125	Digital II	3
ELT	126	Solid State I	3
ELT	221	Solid State II	3
ELT	222	Microprocessors	3
ELT	224	Linear IC Applications	3
ELT	234	Advanced Problem Solving	3
TEC	103	Collaborative Team Skills	1
TEC	104	Computer Fundamentals for Technology	3

Choose one of two specialties:



Choose one of the following specialties:

<i>Communications Specialty and Core</i>			12 Credits
ELT	228	Communications Electronics	3
ELT	230	Advanced Communications Electronics	3
ELT	229	Telecommunications	3
ELT	231	Microwave	3

<i>Industrial Specialty and Core</i>			12 Credits
AMT	201	Manufacturing Systems Control	3
ELT	223	Electrical Machines	3
ELT	203	Introduction to Industrial Controls	3
ELT	214	Industrial Instrumentation	3

**Total** **65 Credits**

Accredited by the Accreditation Board of the National Association of Industrial Technology (NAIT) and the Federal Aviation Administration (FAA) Airway Facilities Collegiate Training Initiative (AF-CTI)

# Electronics Technology - Associate of Science

To receive this degree, you must earn 64 credits.

General Education Core .....31  
Technical Core .....33

Students who wish to pursue their Bachelor of Science degree in Electronics Technology at Indiana State University and want to take their first two years of that program at Ivy Tech State College should use the following curriculum:

General Education Core			31 Credits
COM	101	Fundamentals of Public Speaking	3
ENG	111	English Composition	3
ENG	211	Technical Writing	3
MAT	131	Algebra/Trigonometry I	3
MAT	132	Algebra/Trigonometry II	3
PHY	101	Physics I	4
*ELECTIVE:		Humanities/Social Sciences	12
Technical Core			33 Credits
ELT	120	Introduction to Electronics	3
ELT	121	Circuits I	3
ELT	122	Circuits II	3
ELT	124	Digital I	3
ELT	125	Digital II	3
ELT	126	Solid State I	3
ELT	126	Solid State II	3
ELT	222	Microprocessors	3
IDS	104	Fluid Power Basics	3
TEC	102	Technical Graphics	3
TEC	104	Computer Fundamentals for Technology	3
Total			64 Credits

\*Elective is defined as a course chosen by the student from the inventory of courses available on a campus.

# Hospitality Administration

**Degrees Available:**

Associate of Applied Science (66 Credits)

Career Certificate (25 Credits)

**Specialties:**

*Hotel and Restaurant Management*

*Baking and Pastry Arts*

*Culinary Arts*

*Dietary Management*

The Hospitality Administration program emphasizes the techniques of such hospitality leaders as Ritz, Escoffier, Statler, Hilton, and Marriott. By choosing a specialty area, students begin building leadership skills for the profession of welcoming and serving guests. The hospitality programs offered by Ivy Tech produce graduates who can perform well in the hospitality industry.

A two-year program requiring 66 credits leads to an Associate of Applied Science degree. A certificate in Dietary Management is available for 25 credits.

# Hospitality Administration - Associate of Applied Science

To receive this degree, you must earn 66 credits:

General Education Core .....18  
 Technical Core .....18  
 Specialty Core .....30

Choose one of the following specialties: →

General Education Core			18 Credits
COM	101	Fundamentals of Public Speaking	3
ECN	101	Economic Fundamentals	3
ENG	111	English Composition	3
MAT	111	Intermediate Algebra	3
PSY	101	Introduction to Psychology	3
SCI	111	Physical Science	3

Technical Core			18 Credits
HOS	101	Sanitation and First Aid	3
HOS	102	Basic Foods Theory and Skills	3
HOS	104	Nutrition	3
HOS	109	Hospitality Purchasing	2
HOS	201	Hospitality Organization and Human Resource Management	3
HOS	203	Menu, Design, and Layout	2
HOS	204	Food and Beverage Cost Control	2

Hotel and Restaurant Administration Specialty Core			30 Credits
ACC	101	Accounting Principles I	3
CIS	101	Introduction to Microcomputers	3
HOS	108	Table Service	3
HOS	114	Hospitality Organization and Administration OR	
BUS	105	Principles of Management	3
BUS	102	Business Law	3
HOS	216	Hospitality Marketing & Group Sales OR	
MKT	101	Principles of Marketing	3
HRM	201	Food & Beverage Management OR	3
BUS	101	Introduction to Business	
HOS	280	Co-op/Internship/Externship/Practicum	3
HRM	202	Front Office	3
HRM	206	Housekeeping	3

Baking and Pastry Specialty Core			30 Credits
BKR	101	Yeast Breads I	3
BKR	102	Yeast Breads II	3
BKR	103	Merchandising/Internship	3
BKR	104	Baking Science	3
BKR	201	Cakes, Icings, and Fillings	3
BKR	202	Advanced Decorating/Candies	3
HOS	105	Introduction to Baking	3
HOS	106	Pantry and Breakfast	3
HOS	207	Classical Pastries and Chocolates	3
HOS	280	Co-op/Internship/Externship/Practicum	3

→ Culinary Arts Specialty Core			30 Credits
CUL	110	Meat Cutting	2
CUL	207	Classical Cuisines	3
CUL	212	Fish and Seafood	2
HOS	103	Soups, Stocks, and Sauces	2
HOS	105	Introduction to Baking	3
HOS	106	Pantry and Breakfast	3
CIS	101	Introduction to Microcomputers	3
HOS	108	Table Service	3
HOS	202	Garde Manger	3
HOS	207	Advanced Baking and Chocolates	3
HOS	280	Co-op/Internship/Externship/Practicum	3
Total			66 Credits
Other substitutions for Restaurant Specialty: SUP 223, SUP 224, BUS 203 OR BUS 208, BUS 288			

## Dietary Management - Career Certificate

Career Certificate Core			25 Credits
HOS	101	Sanitation and First Aid	3
HOS	102	Basic Foods Theory and Skills	3
HOS	104	Nutrition	3
HOS	115	Dietary Therapy	4
HOS	116	Dietary Management I	4
HOS	117	Dietary Management II	4
HRM	118	Clinical	4
Total			25 Credits



# Industrial Technology

## Degrees Available:

- Associate of Applied Science (64 Credits)

Technical Certificate  
(39 Credits)

## Specialties:

*Heating, Ventilation/Air Conditioning  
Industrial Maintenance  
Machine Tool*

The Industrial Technology Program is a discipline devoted to the development of skills necessary for the installation, operation and maintenance of residential and industrial equipment and systems. The curriculum is broad-based and offers specialties, but focuses on the integration of each area as used in systemic applications. This requires proficiency in mathematics, communication, physics and basic computer skills, as well as the technical subject matter.

In laboratory applications of classroom study, each student uses the tools and instruments associated with the practice of the industrial technology specialty including volt-ohm meters, leak detectors, sonic diagnostic tools, pressure and level testing devices, preventive maintenance software programs, welding and brazing equipment, metallurgical testing instruments, hand tools, and electronic and precision measuring devices. The safe use of tools and materials are integrated into each course in the curriculum.

Associate of Applied Science degrees require 64 credits in Industrial Technology. Technical certificates are available.

# Heating/AC/Refrigeration - Associate of Applied Science

To receive this degree, you must earn 64 credits.

General Education Core	6
Technical Core	3
Specialty Core	6
Regionally Determined Core	24

<b>General Education Core</b>			<b>19 Credits</b>
COM	101	Fundamentals of Public Speaking	3
ENG	111	English Composition	3
MAT	111	Intermediate Algebra	3
MAT	121	Geometry/Trigonometry	3
PHY	100	Technical Physics OR	4
PHY	101	Physics	
XXX	XXX	Humanities/Social Sciences	3

<b>Technical Core</b>			<b>18 Credits</b>
IDS	102	Introduction to Print Reading	3
IDS	103	Motors and Motor Controls	3
IDS	114	Introductory Welding	3
IDS	260	Quality Control and Advanced Problem Solving	3
TEC	104	Computer Fundamentals for Technology	3
TEC	113	Basic Electricity	3

<b>Heating/Air Conditioning, Refrigeration Specialty Core</b>			<b>15 Credits</b>
HEA	101	Heating Fundamentals	3
HEA	103	Air Conditioning and Refrigeration I	3
HEA	104	Heating Service	3
HEA	106	Air Conditioning and Refrigeration II	3
HEA	202	Electrical Circuits and Controls	3

<b>Regionally Determined Core</b>			<b>12 Credits</b>
HEA	201	Cooling Service	3
HEA	205	Heat Pump Service	3
HEA	212	Advanced HVAC Controls	3
HEA	220	Air Distribution Systems	3

<b>Total</b>			<b>64 Credits</b>
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# Heating, Ventilation/Air Conditioning Specialty - Technical Certificate

To receive this degree, you must  
earn 39 credits:

General Education Core	6
Technical Core	3
Specialty Core	6
Regionally Determined Core	24

General Education Core			6 Credits
COM	102	Introduction to Interpersonal Communication	3
ELECTIVE:		Mathematics/Social Sciences/ Humanities/Social Sciences	3
Technical Core			3 Credits
TEC	113	Basic Electricity	3
Specialty Core			6 Credits
HEA	101	Heating Fundamentals	3
HEA	103	Air Conditioning and Refrigeration I	3
Regionally Determined Core			24 Credits
HEA	104	Heating Service	3
HEA	106	Air Conditioning & Refrigeration II	3
HEA	107	Duct Fabrication	3
HEA	201	Cooling Service	3
HEA	202	Electrical Circuits and Controls	3

# Welding Specialty - Technical Certificate

To receive this degree, you must  
earn 39 credits:

General Education Core	6
Technical Core	3
Specialty Core	6
Regionally Determined Core	24

HEA	205	Heat Pump Service	3
IDS	103	Motors and Motor Controls	3
General Education Core			6 Credits
COM	102	Introduction to Interpersonal Communications	3
ELECTIVE:	Mathematics/Life Humanities/Social Sciences		3
Technical Core			3 Credits
TEC	113	Basic Electricity	3
Specialty Core			6 Credits
WLD	108	Shielded Metal Arc Welding I	3
WLD	207	Gas Metal Arc (MIG) Welding	3
Regionally Determined Core			24 Credits
IDS	102	Introduction to Print Reading	3
WLD	109	Oxyacetylene Gas Welding and Cutting	3
WLD	110	Welding Fabrication	3
WLD	120	Metallurgy Fundamentals	3
WLD	203	Pipe Welding	3
WLD	206	Shielded Metal Arc Welding II	3
WLD	208	Gas Tungsten Arc (TIG) Welding	3
WLD	209	Welding Certification	3

# Machine Tool - Associate of Applied Science

To receive this degree, you must earn 64 credits.

General Education Core	19
Technical Core	18
Specialty Core	15
Locally Determined Courses	12

General Education Core			19 Credits
COM	101	Fundamentals of Public Speaking	3
ENG	111	English Composition	3
MAT	111	Intermediate Algebra	3
MAT	121	Geometry/Trigonometry	3
PHY	100	Technical Physics OR	4
PHY	101	Physics I	
XXX	XXX	Humanities/Social Sciences	3

Technical Core			18 Credits
IDS	104	Fluid Power Basics	3
IDS	260	Quality Control and Advanced Problem Solving	3
TEC	101	Manufacturing Processes	3
TEC	102	Technical Graphics	3
TEC	104	Computer Fundamentals for Technology	3
TEC	113	Basic Electricity	3

Machine Tool Specialty Core			15 Credits
DSN	103	CAD Fundamentals	3
IDS	102	Introduction to Print Reading	3
MTT	208	CNC Programming I	3
MTT	220	CAD/CAM I	3
MTT	221	CAD/CAM II	3

Regionally Determined Core			12 Credits
MTT	102	Turning Processes I	3
MTT	103	Milling Processes	3
MTT	204	Abrasive Processes	3
MTT	209	CNC Programming II	3

Total			64 Credits
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# Machine Tool Specialty - Technical Certificate

To receive this degree, you must  
earn 39 credits:

General Education Core	6
Technical Core	3
Specialty Core	6
Regionally Determined Core	24

<b>General Education Core</b>			<b>6 Credits</b>
COM	102	Introduction to Interpersonal Communication	3
MAT	111	Intermediate Algebra	3
<b>Technical Core</b>			<b>3 Credits</b>
TEC	113	Basic Electricity	3
<b>Specialty Core</b>			<b>6 Credits</b>
MTT	208	CNC Programming I	3
MTT	209	CNC Programming II	3
<b>Regionally Determined Core</b>			<b>24 Credits</b>
IDS	102	Introduction to Print Reading	3
MAT	121	Geometry/Trigonometry	3
MTT	102	Turning Processes I	3
MTT	103	Milling Processes I	3
MTT	204	Abrasive Processes	3
MTT	210	Interactive CNC	3
QSC	203	Metrology	3
TEC	102	Technical Graphics	3
<b>Total</b>			<b>39 Credits</b>

# Industrial Maintenance - Associate of Applied Science

To receive this degree, you must earn  
64 credits.

General Education Core	19
Technical Core	18
Specialty Core	15
Locally Determined Courses	12

<b>General Education Core</b>			<b>19 Credits</b>
COM	101	Fundamentals of Public Speaking	3
ENG	111	English Composition	3
MAT	111	Intermediate Algebra	3
MAT	121	Geometry/Trigonometry	3
PHY	100	Technical Physics OR	4
PHY	101	Physics I	
XXX	XXX	Humanities/Social Sciences	3

<b>Technical Core</b>			<b>18 Credits</b>
IDS	102	Introduction to Print Reading	3
IDS	104	Fluid Power Basics	3
IDS	260	Quality Control and Advanced Problem Solving	3
TEC	101	Manufacturing Processes	3
TEC	104	Computer Fundamentals for Technology	3
TEC	113	Basic Electricity	3

<b>Industrial Maintenance Specialty Core</b>			<b>15 Credits</b>
AMT	201	Manufacturing Systems Control	3
IDS	104	Fluid Power Basics	3
IMT	201	Fluid Power Systems	3
IMT	203	Machine Maintenance/Installation	3
IMT	207	Electrical Circuits	3

<b>Regionally Determined Core</b>			<b>12 Credits</b>
IMT	105	Heating and Air Conditioning Basics	3
IMT	107	Preventive Maintenance	3
IMT	210	Pumps	3
AMT	102	Introduction to Robotics OR	
IMT	106	Millwright I	3

<b>Total</b>			<b>64 Credits</b>
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# Office Administration Technology

## Degrees Available:

- Associate of Applied Science  
(60 Credits)
- Associate of Science  
(60 Credits)
- Technical Certificate  
(30 Credits)

## Specialties:

*Software Specialty*

*Medical Specialty*

*Legal*

*Administrative Assistant (Technical Certificate)*

The Office Administration Program prepares students for an automated office environment. Students develop basic office skills and acquire computer skills, including word processing, spreadsheets, databases, and microcomputer operating systems. Several applications (advanced word processing, desk-top publishing, and integrated packages) can also be studied in depth. The Office Administration Program is designed to accommodate students with different levels of training experiences. Courses are offered which provide initial, advanced and refresher education and assist individuals in achieving professional recognition and career progression. The program offers the Software Specialty, Medical Specialty, and Legal Specialty courses of study for the Associate of Applied Science degree. An Administrative Assistant Specialty is offered in the Technical Certificate program of study.

Students who complete the recommended sequences of courses are eligible to take the Administrative Information Processing Specialist (AIPS) or the Certified Professional Secretary (CPS) exams administered by the Institute for Certifying Secretaries of the Professional Secretaries International Association (PSI).

A two-year program requiring 60 credits leads to an Associate of Applied Science degree or an Associate of Science degree.

# Administrative Specialty - Associate of Applied Science

To receive this degree, you must earn 60 credits:

General Education Core	18
Technical Core	18
Specialty Core	12
Regionally Determined Courses	6
Electives	6

<b>General Education Core</b>			<b>18 Credits</b>
COM	101	Fundamentals of Public Speaking	3
ENG	111	English Composition	3
MAT	112	Functional Mathematics	3
or			
MAT	111	Intermediate Algebra	3
ECN	XXX	Economics	3
SCI	XXX	Life/Physical Sciences	3
SOC	XXX	Social Science Elective	3

<b>Technical Core</b>			<b>18 Credits</b>
ACC	101	Accounting Principles	3
BUS	101	Introduction to Business	3
CIS	101	Introduction to Microcomputers	3
OAD	119	Document Processing	3
OAD	216	Business Communications	3
OAD	221	Office Administration and Supervision	3

<b>Administrative Specialty Core</b>			<b>12 Credits</b>
OAD	103	Word Processing Applications	3
OAD	121	Office Procedures	3
OAD	114	Desktop Publishing	3
OAD	220	Records and Database Management	3

<b>Regionally Determined Core</b>			<b>6 Credits</b>
OAD	207	Integrated Office Applications	3
OAD	219	Advanced Document Processing	3

<b>Electives</b>			<b>6 Credits</b>
OAD	110	Presentation Graphics	3
OAD	214	Multimedia Design	3
OAD	217	Computer Operator Problem Solving	3
OAD	218	Spreadsheets	3
OAD	280	Co-op Internship	3
CIS	106	Microcomputer Operating Systems	3

<b>Total</b>			<b>60</b>
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# Legal Specialty - Associate of Applied Science

To receive this degree, you must earn 60 credits:

General Education Core	18
Technical Core	18
Specialty Core	12
Regionally Determined Courses	6
Electives	6

<b>General Education Core</b>			<b>18 Credits</b>
COM	101	Fundamentals of Public Speaking	3
ENG	111	English Composition	3
MAT	112	Functional Mathematics	3
or			
MAT	111	Intermediate Algebra	3
ECN	XXX	Economics	3
SCI	XXX	Life/Physical Sciences	3
SOC	XXX	Social Science Elective	3

<b>Technical Core</b>			<b>18 Credits</b>
ACC	101	Accounting Principles	3
BUS	101	Introduction to Business	3
CIS	101	Introduction to Microcomputers	3
OAD	119	Document Processing	3
OAD	216	Business Communications	3
OAD	221	Office Administration and Supervision	3

<b>Legal Specialty Core</b>			<b>12 Credits</b>
OAD	103	Word Processing Applications	3
LEG	101	Introduction to Paralegal	3
LEG	102	Legal Research	3
LEG	103	Civil Procedures	3

<b>Regionally Determined Core</b>			<b>6 Credits</b>
OAD	215	Legal Transcription	3
OAD	219	Advanced Document Processing	3

<b>Electives</b>			<b>6 Credits</b>
OAD	110	Presentation Graphics	3
OAD	114	Desktop Publishing	3
OAD	207	Integrated Office Applications	3
OAD	214	Multimedia Design	3
OAD	217	Computer Operator Problem Solving	3
OAD	218	Spreadsheets	3
OAD	220	Records and Database Management	3
OAD	280	Co-op Internship	3
BUS	102	Business Law	3
LEG	XXX	Paralegal Program Elective	3

<b>Total</b>			<b>60</b>
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# Associate of Applied Science - Software Specialty

To receive this degree, you must earn 60 credits:

General Education Core	18
Technical Core	18
Specialty Core	12
Regionally Determined Courses	6
Electives	6

<b>General Education Core</b>			<b>18 Credits</b>
COM	101	Fundamentals of Public Speaking	3
ENG	111	English Composition	3
MAT	112	Functional Mathematics	3
or			
MAT	111	Intermediate Algebra	3
ECN	XXX	Economics	3
SCI	XXX	Life/Physical Sciences	3
SOC	XXX	Social Science Elective	3

<b>Technical Core</b>			<b>18 Credits</b>
ACC	101	Accounting Principles	3
BUS	101	Introduction to Business	3
CIS	101	Introduction to Microcomputers	3
OAD	119	Document Processing	3
OAD	216	Business Communications	3
OAD	221	Office Administration and Supervision	3

<b>Software Specialty Core</b>			<b>12 Credits</b>
OAD	103	Word Processing Applications	3
OAD	114	Desktop Publishing	3
OAD	214	Multimedia Design	3
OAD	217	Computer Operator Problem Solving	3
OAD	218	Spreadsheets	3

<b>Regionally Determined Core</b>			<b>3 Credits</b>
OAD	207	Integrated Office Applications	3

<b>Electives</b>			<b>6 Credits</b>
OAD	110	Presentation Graphics	3
OAD	121	Office Procedures	3
OAD	219	Advanced Document Processing	3
OAD	220	Records and Database Management	3
OAD	280	Co-op Internship	3
CIS	106	Microcomputer Operating Systems	3

<b>Total</b>			<b>60</b>
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# Administrative Assistant Specialty - Technical Certificate

To earn this degree, you must have 30credits.

General Education Core	6
Technical Core	3
Specialty Core	9
Regionally Determined Electives	6
Electives	6

<b>General Education Core</b>	<b>6 Credits</b>
ENG 111 English Composition	3
SOC XXX Social Science Elective	3

<b>Technical Core</b>	<b>3 Credits</b>
OAD 119 Document Processing	3

<b>Administrative Assistant Specialty Core</b>	<b>9 Credits</b>
OAD 103 Word Processing Applications	3
OAD 121 Office Procedures	3
CIS 101 Introduction to Microcomputers	3

<b>Regionally Determined Core</b>	<b>6 Credits</b>
OAD 207 Integrated Office Applications	3
OAD 216 Business Communications	3

<b>Electives</b>	<b>6 Credits</b>
OAD 110 Presentation Graphics	3
OAD 214 Multimedia Design	3
OAD 217 Computer Operator Problem Solving	3
OAD 218 Spreadsheets	3
OAD 280 Co-op Internship	3
CIS 106 Microcomputer Operating Systems	3

<b>Total</b>	<b>30</b>
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# Office Administration Technology - Associate of Science

To earn this degree, you must have  
60 credits.

General Education Core	24
Technical Core	33
Regionally Determined Electives	3

General Education Core			24 Credits
COM	101	Fundamentals of Public Speaking	3
COM	102	Introduction to Interpersonal Communications	3
ECN	XXX	Economics	3
ENG	111	English Composition	3
POL	101	Introduction to American Government and Politics	3
MAT	111	Intermediate Algebra	3
XXX	XXX	Life/Physical Sciences	3
XXX	XXX	Social Science Elective	3

Technical Core			33 Credits
ACC	101	Accounting Principles I	3
ACC	102	Accounting Principles II	3
BUS	101	Introduction to Business	3
BUS	102	Business Law	3
BUS	105	Principles of Management	3
CIS	101	Introduction to Microcomputers	3
OAD	103	Word Processing Applications OR	
OAD	288	Microcomputer Word Processing	3
OAD	119	Document Processing	3
OAD	207	Integrated Office Applications	3
OAD	220	Records and Database Management	3
OAD	221	Office Administration and Supervision	3

Regionally Determined Electives (Choose one)			3 Credits
OAD	216	Business Communications	3
OAD	110	Presentation Graphics	3
OAD	114	Desktop Publishing	3
OAD	214	Multimedia Design	3
OAD	217	Computer Operator Problem Solving	3
OAD	218	Spreadsheets	3
OAD	280	Co-op Internship	3
CIS	106	Microcomputer Operating Systems	3

<b>Total</b>	<b>60</b>
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## Paralegal

**Degrees Available:**

Associate of Applied Science  
(60 Credits)

Recognizing the demand for trained paralegals, Ivy Tech has shaped a curriculum with input from attorneys, judges, paralegals, the American Bar Association, and other legal professionals. These advisors have helped Ivy Tech determine what qualifications are necessary for success in the paralegal field.

Ivy Tech's program produces knowledgeable paralegal professionals ready for an exciting career in law firms, the courts, government, corporate legal departments, banks, title companies, insurance companies, and other businesses. Paralegal duties include drafting pleadings, transactional documents, and legal correspondence; interviewing clients and witnesses; doing legal research in the library or on the computer; managing trial documents and exhibits; and assisting attorneys in the courtroom.

Ivy Tech training provides students with the variety of skills necessary to succeed in this career. The curriculum emphasizes written and oral communication skills and provides in-class opportunities for technical skill development. Courses are taught by attorneys who are selected based upon their experience in the subject matter, as well as the familiarity with the function of paralegal as part of the legal team.

A two-year program requiring 60 credits leads to an Associate of Applied Science degree.

# Paralegal - Associate of Applied Science

To earn this degree, you must have 60 credits.

General Education Core	24
Technical Core	18
Specialty Core	18

<b>General Education Core</b>			<b>24 Credits</b>
BIO	101	Biology OR	3
ANP	101	Anatomy and Physiology	3
COM	101	Fundamentals of Public Speaking	3
ENG	111	English Composition	3
ENG	112	Exposition and Persuasion	3
MAT	111	Intermediate Algebra	3
PHL	102	Introduction to Ethics	3
Choose two:			
POL	101	Introduction to American Government	3
ECN	101	Economics Fundamentals	3
HSY	101	Survey of American History I	3
PSY	101	Introduction to Psychology	3
SOC	111	Introduction Sociology	3
HUM	101	Survey of Humanities	3

<b>Technical Core</b>			<b>18 Credits</b>
LEG	101	Introduction to Paralegal Studies	3
LEG	102	Legal Research and Writing	3
LEG	103	Civil Procedures	3
LEG	106	Torts and Claims Investigation	3
LEG	202	Advanced Trial Procedures	3
LEG	204	Advanced Legal Writing	3

<b>Regionally Determined Core</b>			<b>18 Credits</b>
LEG	107	Contracts and Commercial Law	3
LEG	108	Property Law	3
Choose four:			
LEG	105	Business Associations and Transactions	3
LEG	209	Family Law	3
LEG	210	Wills, Trusts and Probate	3
LEG	211	Criminal Law	3
LEG	212	Bankruptcy	3
LEG	288	Internship	3
ACC	101	Principles of Accounting I	3
ACC	105	Income Tax Accounting	3
OAD	207	Integrated Applications/Advanced Office	3
OAD	216	Business Communications	3

<b>Total</b>			<b>60 Credits</b>
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# Public Safety Technology

**Degrees Available:**

Associate of Applied Science  
(60-63 Credits)

***Specialties:***

*Fire Science*

*Environmental Management*

*Hazardous Materials*

*Public Administration*

The Public Safety Technology Program is designed to meet the ongoing needs of municipalities, students, businesses, and industries. The program develops technical skills, general knowledge, critical thinking, and problem solving abilities. Broad-based technical skills and critical thinking processes assist students in adapting to changes in the work environment and promoting successful advancement on the job. Additionally, the program prepares graduates to transfer to baccalaureate degree-granting institutions if they wish to continue their education.

Specialty areas allow students to choose an emphasis in environmental care, fire science, hazardous materials, or public administration. Associate of Applied Science degrees require 60-63 credits.

# Fire Science - Associate of Applied Science

To receive this degree, you must earn 63 credits:

General Education Core	18
Technical Core	15
Specialty Core	15
Regionally Determined Core	15

<b>General Education Core</b>			<b>18 Credits</b>
CHM	101	Chemistry I	3
COM	101	Fundamentals of Public Speaking	3
ENG	111	English Composition	3
MAT	111	Intermediate Algebra	3
POL	101	Intro. to American Government and Politics	3
SCI	111	Physical Science OR	3
BIO	101	Biology	

<b>Technical Core</b>			<b>15 Credits</b>
PST	121	Risk Management	3
PST	220	Incident Management System	3
PST	221	Computer Design and Planning	3
TEC	104	Computer Fundamentals for Technology	3
TEC	106	Hazardous Materials and Control	3

<b>Fire Science Specialty Core</b>			<b>15 Credits</b>
AFS	102	Fire Apparatus and Equipment	3
AFS	103	Strategy and Tactics	3
AFS	201	Fire Protection Systems	3
AFS	202	Fire Service Management	3
AFS	204	Fire Service Hydraulics	3

<b>Regionally Determined Core</b>			<b>15 Credits</b>
Student choose any five of the courses below:			
AFS	100	Fire Suppression	3
AFS	104	Building Construction for Fire Service	3
AFS	101	Fire Technology	3
AFS	105	Fire and Arson investigation	3
AFS	108	Fire Prevention/Inspection	3
AFS	109	Fire Department Specifications	3
PST	120	First Responder	3
<b>Total</b>			<b>63 Credits</b>

# Environmental Management - Associate of Applied Science

To receive this degree, you must earn 63 credits:

General Education Core	18
Technical Core	15
Specialty Core	15
Regionally Determined Core	15

<b>General Education Core</b>			<b>18 Credits</b>
CHM	101	Chemistry I	3
COM	101	Fundamentals of Public Speaking	3
ENG	111	English Composition	3
MAT	111	Intermediate Algebra	3
POL	101	Intro. to American Government and Politics	3
SCI	111	Physical Science OR	3
BIO	101	Biology	

<b>Technical Core</b>			<b>15 Credits</b>
PST	121	Risk Management	3
PST	220	Incident Management System	3
PST	221	Computer Design and Planning	3
TEC	104	Computer Fundamentals for Technology	3
TEC	106	Hazardous Materials and Control	3

<b>Environmental Management Specialty Core</b>			<b>15 Credits</b>
ENV	101	Introduction to Environmental Technology	3
ENV	102	Environmental Management	3
ENV	103	Environmental Chemistry	3
HMT	104	Environmental Toxicology	3
HMT	200	EPA Regulations	3

<b>Regionally Determined Core (Choose any five)</b>			<b>15 Credits</b>
ENV	104	Plant Operations - Sanitary	3
ENV	105	Air Management	3
ENV	106	Water Management	3
ENV	203	Environmental Microbiology	3
ENV	208	Plant Operations - Industrial	3
HMT	203	Sampling Procedures	3
PST	120	First Responder	3

<b>Total</b>			<b>63 Credits</b>
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# Public Administration - Associate of Applied Science

To receive this degree, you must  
earn 60 credits:

General Education Core	18
Technical Core	15
Specialty Core	15
Regionally Determined Core	15

<b>General Education Core</b>			<b>18 Credits</b>
CHM	101	Chemistry I	3
COM	101	Fundamentals of Public Speaking	3
ENG	111	English Composition	3
MAT	111	Intermediate Algebra	3
POL	101	Intro. to American Government and Politics	3
SCI	111	Physical Science OR	3
BIO	101	Biology	

<b>Technical Core</b>			<b>15 Credits</b>
PST	121	Risk Management	3
PST	220	Incident Management System	3
PST	221	Computer Design and Planning	3
TEC	104	Computer Fundamentals for Technology	3
TEC	106	Hazardous Materials and Control	3

<b>Public Administration Specialty Core</b>			<b>12 Credits</b>
BUS	105	Principles of Management	3
BUS	208	Organizational Behavior	3
SUP	102	Techniques of Supervision I	3
SUP	224	Operations Management	3

<b>Regionally Determined Core</b>			<b>15 Credits</b>
ACC	101	Accounting Principles	3
AFS	202	Fire Service Management	3
PST	288	Public Administration	3
PST	288	Internship	3
PST	120	First Responder	3

<b>Total</b>			<b>60 Credits</b>
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# Hazardous Materials - Associate of Applied Science

To receive this degree, you must earn 60 credits:

General Education Core . . . . .	18
Technical Core . . . . .	15
Specialty Core . . . . .	15
Regionally Determined Core . . . .	15

<b>General Education Core</b>			<b>18 Credits</b>
CHM	101	Chemistry I	3
COM	101	Fundamentals of Public Speaking	3
ENG	111	English Composition	3
MAT	111	Intermediate Algebra	3
POL	101	Introduction to American Government and Politics	3
SCI	111	Physical Science OR	3
BIO	101	Biology	
<b>Technical Core</b>			<b>15 Credits</b>
PST	121	Risk Management	3
PST	220	Incident Management System	3
PST	221	Computer Design and Planning	3
TEC	104	Computer Fundamentals for Technology	3
TEC	106	Hazardous Materials and Control	3
<b>Hazardous Materials Specialty Core</b>			<b>12 Credits</b>
HMT	100	OSHA Regulations	3
HMT	120	Hazardous Communication Standards	3
HMT	200	Environmental Protection Agency (EPA) Regulations	3
HMT	220	Hazardous Materials Recovery, Incineration and Disposal	3
<b>Regionally Determined Core</b>			<b>15 Credits</b>
HMT	104	HAZMAT Health Effects	3
HMT	201	Contingency Planning	3
HMT	203	Sampling Procedures	3
HMT	205	DOT Regulations	3
PST	120	First Responder	3
<b>Total</b>			<b>60 Credits</b>

# Visual Communications - Associate of Applied Science

(Pending approval)

*Specialties:*

*Graphic Design*

*Multimedia*

To receive this degree, you must earn 66 credits:

General Education Core	18
Technical Core	18
Specialty Core	18
Regionally Determined Core	12

<b>General Education Core</b>			<b>18 Credits</b>
COM	101	Fundamentals of Public Speaking	3
ENG	111	English Composition	3
MAT	111	Intermediate Algebra	3
SCI	111	Physical Science	3
XXX	XXX	Humanities/Social Sciences	3
XXX	XXX	Humanities/Social Sciences	3

<b>Technical Core</b>			<b>18 Credits</b>
VIS	101	Fundamentals of Design	3
VIS	102	Fundamentals of Imaging	3
VIS	115	Computer Graphics	3
VIS	201	Electronic Imaging	3
VIS	205	Business Practices for Visual Artists	3
VIS	207	Portfolio Preparation	3

<b>Regionally Determined Core</b>			<b>12 Credits</b>
TEC	104	Computer Fundamentals for Technology	3
DCT	288	Web Page Development	3
ART	202	Special Projects I	3
VIS	209	3D Rendering and Animation OR	
VIS	288	Special Topics in Visual Communications	3

Choose one of the following specialties: →

<b>Graphic Design Specialty Core</b>			<b>18 Credits</b>
ART	111	Drawing for Visualization	3
ART	112	Electronic Layout	3
ART	114	Graphic Design	3
ART	115	Typography	3
ART	117	Production	3
ART	217	Advanced Graphic Design	3

<b>Multimedia Design Specialty Core</b>			<b>18 Credits</b>
VIS	103	Introduction to Multimedia	3
ART	115	Typography	3
ART	116	Electronic Illustration	3
VIS	105	Video and Sound	3
VIS	209	3D Rendering or Animation	3
PHO	106	Studio Practices	3

**Total** **66 Credits**

# Health and Human Services Division

## Associate of Science Degree in Nursing (RN)

Ivy Tech State College - Central Indiana offers a two-year generic Associate of Science (AS) nursing program. The program is also accredited by the National League for Nursing Accrediting Commission. Graduates are eligible to write the NCLEX-RN examination to become registered nurses. This program accommodates both students interested in nursing as a career and licensed practical nurses choosing to continue their nursing education.

### Admission Criteria For College

#### Admission:

Certificate of high school graduation or GED, SAT or ACT scores\* or College Assessment

\* Course specifically geared towards students enrolled in the LPN-to-ASN completion option. (Successful completion of this course with a grade of "C" or better allows verification of credit applied towards the first level "NUR" courses (150, 151, 152, 153 and 154).

#### For ASN Admission:

· PSB Nursing School Aptitude Test

#### For all nursing students:

- Physical health form and immunizations completed prior to registration for any clinical course.
- Test may be waived by college transcript with grades of "C" or better within the past 10 years for required science courses.

Students who plan to transfer to the B.S. in Nursing program at Indiana University-Purdue University at Indianapolis (IUPUI) upon graduation should plan also to take BIO 212, General Microbiology II.

## Associate of Science

### Degrees Available:

Associate of Science (68 Credits)

General Education Core	.28
Technical Core	.40

General Education Core			28 Credits
ANP	101	Anatomy and Physiology I	3
ANP	102	Anatomy and Physiology II	3
BIO	211	General Microbiology	3
COM	101	Fundamentals of Public Speaking OR	3
COM	102	Introduction to Interpersonal Communication	3
ENG	111	English Composition	3
MAT	111	Intermediate Algebra	3
PSY	101	Introduction to Psychology	3
ANP	201	Advanced Human Physiology	4
PSY	201	Lifespan Development	3
Technical Core			40 Credits
NUR	150	Nursing and Universal Needs	4
NUR	151	Nursing and Universal Needs Practicum	4
NUR	152	Nursing Related to Health Deviation I	5
NUR	153	Nursing Related to Health Deviation I Pract.	5
NUR	154	Pharmacotherapeutics	2
NUR	250	Nursing Related to Health Deviation II	5
NUR	251	Nursing Related to Health Deviation II Pract.	5
NUR	252	Nursing Related to Developmental Needs	4
NUR	253	Nursing Related to Developmental Needs Pract.	4
NUR	254	Professional Nursing Issues	2
Total			

68 Credits

\*NUR 249 Transition to ASN Nursing 3  
 Course specifically geared towards students enrolled in the LPN-to ASN completion option. (Successful completion of this course with a grade of "C" or better allows verification of credit applied towards the first level "NUR" courses (150, 151, 152, 153, and 154.

# Child Development

**Degrees Available:**

Associate of Science (66 Credits)

Technical Certificate (30 Credits)

**Specialties:**

**Generalist**

**Curriculum**

**Infant/Toddler**

**Administration**

The Child Development Program focuses on early childhood growth and development, including adult-child relationships. Emphasis is placed on the development of skills and techniques for providing appropriate environments, care and education for young children. Instruction is provided in the physical, emotional, social, and cognitive areas of early childhood. The training is appropriate for candidates seeking the Child Development Associate (CDA) credential. The student develops competencies through classroom instruction, observation, and participation in early childhood settings. Employment opportunities include: child care center, nursery school, Head Start, family child care, pediatric setting, nanny care, and school age child care.

# Child Development - Associate of Science

To receive the Associate of Science degree, you must earn 66 credits:

General Education Core	27
Technical Core	24
Specialty Core	15

<b>General Education Core</b>		<b>27 Credits</b>
COM	101	Fundamentals of Public Speaking 3
ENG	111	English Composition 3
*ENG	112	Exposition and Persuasion OR 3
*ENG	211	Technical Writing OR
*COM	102	Introduction to Interpersonal Communication
*XXX	XXX	Humanities/Social Science Elective 3
*XXX	XXX	Humanities/Social Science Elective 3
*MAT	111	Intermediate Algebra OR 3
*MAT	112	Functional Mathematics
PSY	101	Introduction to Psychology 3
*SCI	111	Physical Science OR 3
BIO	101	Introductory Biology OR
*ANP	101	Anatomy and Physiology I
SOC	111	Introduction to Sociology 3

<b>Technical Core</b>		<b>24 Credits</b>
CHD	122	Child Growth and Development 3
CHD	124	Developmental and Cultural Awareness 3
CHD	142	Beginnings in Child Development 3
CHD	143	Curriculum in the Early Childhood Classroom 3
CHD	144	Reflections on Practice 3
Must take two of the three courses below:		6
*CHD	202	Family Teacher Partnership Skills OR
*CHD	206	Early Childhood Administration OR
*CHD	209	Family in Transition
^CHD	251	Early Childhood Professionalism 3

<b>Generalist Specialty Core</b>		<b>15 Credits</b>
Must take three of the first five courses below:		9
*CHD	145	CDA Process
*CHD	155	Child Development Practicum I
*CHD	165	Infant/Toddler Practicum
*CHD	175	Pre-school Age Practicum
*CHD	185	School Age Practicum
Must take two of the three courses below:		6
*CHD	216	Exceptional Child
*CHD	221	Emerging Literacy
*CHD	225	Cognitive Curriculum

<b>Infant/Toddler Specialty Core</b>		<b>15 Credits</b>
Must take two of the first three courses below:		6
*CHD	145	CDA Process
*CHD	155	Child Development Practicum I
*CHD	165	Infant/Toddler Practicum
CHD	113	Environments for Infants and Toddlers 3

<b>Curriculum Specialty Core</b>		<b>15 Credits</b>
Must take two of the first five courses below:		<b>6</b>
*CHD 145	CDA Process	
*CHD 155	Child Development Practicum I	
*CHD 165	Infant/Toddler Practicum	
*CHD 175	Preschool Practicum	
*CHD 185	School Age Practicum	
Must take one of the two courses below:		<b>3</b>
*CHD 211	School Age Child Care	
*CHD 213	Infant/Toddler Care Programming	
Must take two of the three courses below:		<b>6</b>
*CHD 221	Emerging Literacy	
*CHD 225	Cognitive Curriculum	
*CHD 242	Curriculum Planning/Early Childhood Administration	
<b>Administration Specialty Core</b>		<b>15 Credits</b>
Must take two of the first five courses below:		<b>6</b>
*CHD 145	CDA Process	
*CHD 155	Child Development Practicum I	
*CHD 165	Infant/Toddler Practicum	
*CHD 175	Preschool Practicum	
*CHD 185	School Age Practicum	
CHD 206	Early Childhood Administration	<b>3</b>
CHD 220	Leadership and Mentoring in the Early Childhood Profession	<b>3</b>
CHD 242	Curriculum Planning/Early Childhood Administration	<b>3</b>
<b>Total</b>		<b>66 Credits</b>

\*Elective is defined as a course chosen by the student from the inventory of courses available on a campus.

^Capstone course (Defined as a course that helps graduating students with their portfolio development.)

## Child Development - Technical Certificate

### Child Development - Technical Certificate

<b>General Education Core</b>		<b>6 Credits</b>
ENG 111	English Composition	<b>3</b>
**PSY 101	Introduction to Psychology OR	<b>3</b>
**SOC 111	Introduction to Sociology	
<b>Technical Core</b>		<b>24 Credits</b>
CHD 122	Child Growth and Development	<b>3</b>
CHD 124	Developmental and Cultural Awareness	<b>3</b>
CHD 142	Beginnings in Child Development	<b>3</b>
CHD 143	Curriculum in the Early Childhood Classroom	<b>3</b>
CHD 144	Reflections on Practice	<b>3</b>
CHD 145	CDA Process OR	<b>3</b>
CHD 155	Child Development Practicum I	
CHD 216	Exceptional Child	<b>3</b>
CHD 221	Emerging Literacy	<b>3</b>
<b>Total</b>		<b>30 Credits</b>



# Human Services

## Degrees Available:

- Associate of Science (65 Credits)
- Associate of Applied Science (62 Credits)

## Specialties:

**Generalist**

**Mental Health**

**Substance Abuse**

The Human Services program offers students the opportunity to become Human Services Generalists or to concentrate in the areas of Substance Abuse or Mental Health.

As a Human Services professional, graduates reach out to individuals, families, and communities. The Human Services program provides the broad understanding to help others meet their psychological, social, and environmental needs. The Human Services Generalist may find employment in a variety of settings.

Those who study Human Services with a focus on Substance Abuse may find a position in substance abuse centers (residential, detoxification centers, and hospitals) as counselors or residents-in-training. The program is certified by the Indiana Counselors Association on Alcohol Abuse (ICAADA). Those who focus in the area of Mental Health may find employment in group homes and community mental health centers.

The program's objectives include preparing the entry-level worker, providing education and training to upgrade the skills and knowledge of those currently employed, and providing development and enhancement of skills.

# Human Services - Associate of Applied Science

To receive this degree, you must earn 62 credits:

General Education Core	18
Technical Core	18
Specialty Core	12
Regionally Determined Courses	14

Choose one of the following specialties:

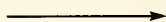
General Education Courses			18 credits
BIO	101	Introduction to Biology OR	
SCI	111	Physical Science	3
COM	101	Fundamentals of Public Speaking	3
ENG	111	English Composition	3
MAT	112	Functional Mathematics OR	
MAT	111	Intermediate Algebra	3
POL	101	Introduction to American Government and Politics	3
PSY	101	Introduction to Psychology OR	
SOC	111	Introduction to Sociology	3

Technical Core Courses			18 Credits
HMS	101	Introduction to Human Services	3
HMS	102	Helping Relationship Techniques	3
HMS	103	Interviewing and Assessment	3
HMS	205	Behavior/Reality Techniques	3
HMS	206	Group Process and Skills	3
HMS	207	Program Planning/Policy Issues	3

Regionally Determined Courses/Internships and Seminars			14 Credits
HMS	201	Internship I	4
HMS	202	Internship II	4
HMS	203	Internship Seminar I	3
HMS	204	Internship Seminar II	3



Generalist Specialty			12 Credits
CIS	101	Introduction to Microcomputers	3
PSY	201	Lifespan Development	3
HMS	XXX	Elective	3
HMS	XXX	Elective	3



Mental Health Specialty			12 Credits
HMS	104	Crisis Intervention	3
HMS	220	Legal Aspects	3
PSY	201	Lifespan Development	3
PSY	205	Abnormal Psychology	3



Substance Abuse Specialty			12 Credits
HMS	113	Problems of Substance Abuse in Society	3
HMS	208	Treatment Models of Substance Abuse	3
HMS	209	Counseling Issues	3
HMS	210	Codependency	3

Total	62 Credits
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# Human Services - Associate of Science

To receive this degree, you must earn 65 credits:

General Education Core	25
Technical Core	15
Specialty Core	12
Regionally Determined Courses	14

General Education Courses			24 credits
BIO	101	Introduction to Biology OR	3
SCI	111	Physical Science	3
COM	101	Fundamentals of Public Speaking	3
ENG	111	English Composition	3
MAT	112	Functional Mathematics OR	
MAT	111	Intermediate Algebra	3
POL	101	Introduction to American Government and Politics	3
PSY	101	Introduction to Psychology	3
SOC	111	Introduction to Sociology	3
Choose one English or Humanities Elective			
ENG	211	Technical Writing OR	
HUM	101	Survey of Humanities OR	
PHL	101	Introduction to Philosophy	3

Technical Core Courses			15 Credits
HMS	101	Introduction to Human Services	3
HMS	102	Helping Relationship Techniques	3
HMS	103	Interviewing and Assessment	3
HMS	205	Behavior/Reality Techniques	3
HMS	206	Group Process and Skills	3

Regionally Determined Courses/Internships and Seminars			14 Credits
HMS	201	Internship I	4
HMS	202	Internship II	4
HMS	203	Internship Seminar I	3
HMS	204	Internship Seminar II	3

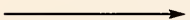
Choose one of the following specialties:



Generalist Specialty			12 Credits
CIS	101	Introduction to Microcomputers	3
PSY	201	Lifespan Development	3
HMS	XXX	Elective	3
HMS	XXX	Elective	3



Mental Health Specialty			12 Credits
HMS	104	Crisis Intervention	3
HMS	220	Legal Aspects	3
PSY	201	Lifespan Development	3
PSY	205	Abnormal Psychology	3



Substance Abuse Specialty			12 Credits
HMS	113	Problems of Substance Abuse in Society	3
HMS	208	Treatment Models of Substance Abuse	3
HMS	209	Counseling Issues	3
HMS	210	Codependency	3

Total			65
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# Medical Assistant

## Degrees Available:

- *Associate of Applied Science*  
(63 Credits)
- *Technical Certificate*  
(48 Credits)

A graduate of the Medical Assistant Program is a professional multi-skilled health care provider dedicated to assisting in patient care management in ambulatory care settings. The practitioner performs administrative and clinical duties and may manage emergency situations, facilities, and/or personnel. Competence in the field also requires that a Medical Assistant display professionalism, communicate effectively, and provide instruction to patients. A required externship provides valuable on-the-job experience.

- The program is accredited by the American Association of Medical Assistants and the Commission on Accreditation of Allied Health Education Programs (CAAHEP).
- Graduates of the Medical Assistant Program will be prepared to take the Certification Examination of the American Association of Medical Assistants (AAMA) and the American Medical Association (AMA) to obtain Certified Medical Assistant (CMA) status that is recognized nationally.
- The two-year Associate of Applied Science program requires 63 credits for completion. The Technical Certificate requires 30 to 48 credits, depending upon selected specialty.
- Salary range for Medical Assistants is from \$7.50 to \$14.50 per hour depending upon education, experience, and specialty area.
- The Medical Assistant Program works in cooperation with private physicians' offices, health maintenance organizations, and immediate care centers to provide clinical and administrative experiences for students.
- A one-year part-time limited radiology curriculum is available to medical assistant graduates leading to an opportunity to sit for the IDH Limited General Certificate Examination in radiography.
- Passing this exam qualifies the Limited General Technologist to perform general radiography in non-hospital settings. The salary range is \$9.50 to \$14.50 per hour.

# Medical Assistant - Associate of Applied Science

To receive this degree, you must earn 63 credits in the following areas:

General Education Core	18
Technical Core	18
Specialty Core	21
Regionally Determined Courses	6

<b>General Education Requirements</b>			<b>18 Credits</b>
ANP	101	Anatomy and Physiology I	3
ANP	102	Anatomy and Physiology II	3
COM	102	Interpersonal Communication	3
ENG	111	English Composition	3
MAT	XXX	Math Elective	3
XXX	XXX	Humanities/Social Elective	3
<b>Technical Core</b>			<b>18 Credits</b>
HHS	101	Medical Terminology	3
HHS	102	Medical Law and Ethics	2
MEA	102	First Aid and CPR	2
MEA	113	Pharmacology	3
MEA	131	Medical Financial Management	3
MEA	132	Computer Concepts in Medical Office	2
MEA	203	Disease Conditions	3
<b>Specialty Core</b>			<b>21 Credits</b>
MEA	114	M.A. Lab Techniques	3
MEA	115	Medical Insurance	2
MEA	120	M.A. Clinical Externship	3
MEA	121	M.A. Administrative Externship	3
MEA	130	M.A. Administrative	2
MEA	133	Clinical Theory	3
MEA	134	Clinical Skills Lab	2
MEA	135	Medical Word Processing/Transcription	3
<b>Regional Electives (See program chair)</b>			<b>6 Credits</b>
*XXX	XXX	Administrative Elective	3
*XXX	XXX	Clinical Elective	3
<b>Total</b>			<b>63 Credits</b>
*per approval of program chair			

# Technical Certificate - Generalist Specialty

To receive this degree, you must earn 63 credits in the following areas:

General Education Core	16
Technical Core	3
Specialty Core	39

<b>General Education Requirements</b>			<b>6 Credits</b>
COM	102	Interpersonal Communication OR	3
PSY	101	Introduction to Psychology	
ANP	101	Anatomy and Physiology	3
<b>Technical Core</b>			<b>3 Credits</b>
HHS	101	Medical Terminology	3
<b>Generalist Specialty Core</b>			<b>39 Credits</b>
ANP	102	Anatomy and Physiology II	3
ENG	111	English Composition	3
HHS	102	Medical Law and Ethics	2
MEA	102	First Aid and CPR	2
MEA	113	Pharmacology	3
MEA	114	M.A. Lab Techniques	3
MEA	115	Medical Insurance	2
MEA	120	M.A. Clinical Externship	3
MEA	121	M.A. Administrative Externship	3
MEA	130	M.A. Administrative	2
MEA	131	Medical Financial Management	3
MEA	132	Computer Concepts in the Medical Office	2
MEA	133	Clinical Theory	3
MEA	134	Clinical Skills Lab	2
MEA	135	Medical Word Processing/Transcription	3
<b>Total</b>			<b>48 Credits</b>

A Technical Certificate is also offered in the following specialties:

- Administrative
- Clinical



# Occupational Therapy Assistant

**Degrees Available:**

Associate of Science (72 Credits)

An occupational therapy assistant provides service to individuals whose abilities to cope with living tasks have been threatened or impaired by developmental deficits, the aging process, physical injury or illness, or psychological disability. The profession serves a diverse population in a variety of settings such as hospitals and clinics, rehabilitation facilities, long-term care facilities, extended-care facilities, sheltered workshops, schools and camps, private homes and community agencies.

The Occupational Therapy Assistant Program is accredited by the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA), located at 4720 Montgomery Lane, P.O. Box 31220, Bethesda, MD 20824-1220. AOTA's phone number is (301) 652-AOTA. Graduates of the program will be able to sit for the national certification examination for the occupational assistant administered by the National Board for Certification in Occupational Therapy (NBCOT). After successful completion of this exam, the individual will be a Certified Occupational Therapy Assistant (COTA). Most states require licensure in order to practice; however, state licenses are usually based on the results of the NBCOT.

# Occupational Therapy Assistant - Associate of Science

To receive this degree, you must earn 72 credits:

General Education Core	31
Technical Core	26
Specialty Core	15

General Education Core Courses				31 Credits
ANP	101	Anatomy and Physiology I		3
ANP	102	Anatomy and Physiology II		3
ANP	201	Advanced Human Physiology		4
COM	101	Fundamentals of Public Speaking		3
ENG	111	English Composition		3
MAT	110	Contemporary College Math OR		
MAT	111	Intermediate Algebra		3
PSY	101	Introduction to Psychology		3
PSY	201	Lifespan Development		3
PSY	205	Abnormal Psychology		3
SOC	111	Introduction to Sociology		3
Technical Core Courses				26 Credits
OTA	101	Foundations of Occupational Therapy		3
OTA	102	Kinesiology		2
OTA	103	Medical Conditions in Occupational Therapy		3
OTA	202	Therapeutic Activities		3
OTA	203	Therapeutic Group Activities		3
OTA	204	Psychiatric Conditions in Occupational Therapy		3
OTA	205	COTA in Physical Health		3
OTA	208	COTA and Interactive Model		3
OTA	210	COTA in Mental Health		3
Specialty Core				15 Credits
OTA	201	Field Work I-A		1
OTA	206	Assistive Technology and Adaptive Equipment		2
OTA	207	Daily Living Skills		3
OTA	209	Field Work I-B		1
OTA	211	Clinical Transition and Management		4
*OTA	212	Field Work II-A		2
*OTA	213	Field Work II-B		2
Total				72 Credits

\*All Level II field work must be completed within 18 months following completion of academic preparation.

# Practical Nursing

## Degrees Available:

Technical Certificate (52 Credits)

The Licensed Practical Nurse is an integral part of the health care team. The Practical Nursing program is a one-year course of study leading to a Technical Certificate. This accredited program prepares the individual to take the state licensure exam to become a Licensed Practical Nurse (LPN). This program is designed for students to gain knowledge and technical skills necessary to appropriately care for patients in a variety of health care settings, such as hospitals, convalescent centers, and physicians' offices.

- Students learn to administer medications and treatments commonly performed by Licensed Practical Nurses. The Indianapolis program is accredited by the Indiana State Board of Nursing and National League of Nursing Accrediting Commission (NLNAC).
- Clinical courses begin in the fall and spring semester of this twelve-month program that requires two semesters and a twelve-week summer session.
- The PSB Aptitude Test Practical Nursing is required after Skills Advancement courses (reading, writing, and math) are completed or almost completed. The fee for this test is \$25.00.
- Applicants are advised to apply six to nine months in advance of desired admission.
- The following facilities serve as clinical sites for practical work experiences required in the program:

*American Village, Indianapolis  
Beverly Rehab, Indianapolis  
Community South and East in Indianapolis  
Hancock Memorial Hospital, Greenfield  
Riley Hospital for Children  
Regency Place—Greenwood  
Americana Healthcare North  
Cambridge Healthcare  
Carmel Care  
Clarian Health Care  
Johnson Memorial Hospital, Franklin  
Lifelines of Indianapolis  
Winona Memorial Hospital  
St. Vincent's Hospital/Health Care Center  
Greenwood Village South, Greenwood  
Hendricks Community Hospital, Danville  
Hoosier Village Retirement Center,  
Indianapolis  
Noblesville Healthcare Center  
Pine Tree Manor, Indianapolis  
Plainfield Health Care Facility  
Rehabilitation Hospital of Indiana,  
Indianapolis  
Robin Run Village, Indianapolis  
St. Francis Hospital Center, Beech Grove  
Westminster Village North, Indianapolis  
Westview Hospital, Indianapolis  
Wishard Memorial Hospital*

The starting salary is \$10.00 to \$13.00 per hour, which can increase up to 25% because of shift differentials and fringe benefits. Applicants should check with local medical facilities for current salary information.

# Practical Nursing - Technical Certificate

To receive this degree, you must  
earn 52 credits

General Education Core . . . . .6  
Technical Core . . . . .46

General Education Core		6 Credits
COM	102 Interpersonal Communication	3
PSY	101 Intro to Psychology	3

Technical Core		46 Credits
ANP	101 Anatomy and Physiology I	3
ANP	102 Anatomy and Physiology II	3
PNU	114 Nursing Issues and Trends	1
PNU	121 Introduction to Nursing I	4
PNU	122 Introduction to Nursing II	6
PNU	123 Pharmacology	3
PNU	127 Care of the Adult	5
PNU	128 Care of the Adult	5
PNU	129 Care of the Adult	5
PNU	130 Nursing Care of the Older Adult	5
PNU	131 Nursing Care of the Child-Bearing Family	6

**Total** 52 Credits

**Suggested courses that help develop students for Program Required Courses:**

ENG	007	Spelling	1
BIO	065	Introduction to Life Sciences	3
CIS	074	Computer Literacy	2
HHS	101	Medical Terminology	3
MEA	212	Phlebotomy	3
IVY	070	College and Life Success Skills	3

# Radiologic Technology

**Degrees Available:**  
Associate of Applied  
Science (84 Credits)

The radiologic technologist, specializing in the use of x-rays to create images of the body, is known as a radiographer. A radiologic technologist is a professional who is skilled in the art and science of radiography and patient care related to radiography, and who applies scientific knowledge to solve practical and theoretical problems. Radiologic technologists are in demand in hospitals, medical laboratories, physicians' and dentists' offices and clinics, federal and state health agencies and certain educational institutions.

The program includes courses in the following areas—patient care, radiologic technique, exposure, positioning, protection, radiation physics, radiation biology, and ethics. Clinical practice and supplemental instruction are provided in accredited hospitals. Upon completion of program requirements, graduates are eligible to take the American Registry Examination given by the American Registry of Radiologic Technologists.

During the last four academic periods, 93% of the program graduates passed the American Registry of Radiologic Technologist Examination on their first attempt.

Radiologic Technology is a full-time, year-round program. Students, once accepted, will be at a clinical site three days each week and in the classroom two days each week. The clinical sites are Bloomington Hospital in Bloomington, Johnson County Memorial in Franklin, and Winona Memorial Hospital in Indianapolis.

The starting salary for a Radiologic Technologist is \$12.00 to \$13.50 per hour. This rate does not include the fringe benefits that could increase the base pay as much as 25%. The program is accredited by the Joint Review Committee on Education in Radiologic Technology.

The Radiologic Technology Program faculty offers a one-year part-time series of courses called Limited General Radiography. These courses were developed by faculty for the two-year Associate Degree program in Radiologic Technology at the request of the Indiana Department of Health (IDH). This series of nine courses totaling 30 credits in Limited General Radiography is the only group of appropriate courses approved by the IDH in Indiana for individuals who work in non-hospital settings. These courses are open to Registered Nurses, Licensed Practical Nurses, Certified Medical Assistants and Medical Assistants and others. Qualified individuals interested in this course series must be employed at a facility that is operating an IDH approved x-ray machine. The starting pay for students who successfully complete the course series ranges from \$8.50 to \$12.00 per hour.

# Radiologic Technology - Associate of Science

To earn this degree, you must have  
84 credits in the following areas:

General Education Core	21
Technical Core	8
Specialty Core	55

General Education Core			21 Credits
*ANP	101	Anatomy and Physiology I	3
*ANP	102	Anatomy and Physiology II	3
*TEC	113	Basic Electricity	3
COM	101	Fundamentals of Public Speaking	3
*ENG	111	English Composition	3
*MAT	111	Intermediate Algebra	3
PSY	101	Introduction to Psychology OR	
SOC	111	Introduction to Sociology	3

Technical Core Courses			8 Credits
CIS	101	Introduction Microcomputers	3
HHS	101	Medical Terminology	3
HHS	102	Medical Law and Ethics	2

Specialty Core Courses			55 Credits
RAD	101	Orientation/Nursing X-ray Technology	4
RAD	102	Principles of Radiographic Exposures I	2
RAD	103	Radiographical Positioning I	3
RAD	104	X-Ray Clinical Education I	4
RAD	105	Radiographical Positioning II	3
RAD	106	X-Ray Clinical Education II	4
RAD	107	Radiation Physics	3
RAD	109	Imaging Techniques	2
RAD	201	Radiographic Positioning III	3
RAD	202	X-Ray Clinical Education III	4
RAD	203	X-Ray Clinical Education IV	4
RAD	204	X-Ray Clinical Education V	4
RAD	205	Pathology for Radiographic Technologists	2
RAD	206	Radiobiology	3
RAD	207	Radiographic Positioning IV	2
RAD	208	Principles of Radiographic Exposures II	2
RAD	288	Pharmacology	3
RAD	299	General Exam Review	3

<b>Total</b>	<b>84 Credits</b>
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\* Courses will be reviewed for GPA by the Admissions Committee  
before consideration for interview.



# Respiratory Care

**Degrees Available:**

Associate of Applied Science  
(79 Credits)

A respiratory care practitioner is an allied health professional who works under the direction of physicians in the diagnosis, evaluation, treatment, education and care of patients with cardiopulmonary diseases or abnormalities.

A graduate of the Associate of Applied Science program will be eligible to sit for the Entry Level and Advanced Practitioner exams given by the National Board for Respiratory Care (NBRC). Successful exam candidates will be awarded the Registered Respiratory Therapist credential. The program's pass rate for the national exam exceeds the national averages.

The two-year Associate of Applied Science degree requires 79 credits for completion.

The Associate Degree program is offered on both a full-time and part-time track. Both tracks require set courses each semester for the duration of the program. Students are accepted into either the full-time program or the part-time program. The full-time program is five semesters in length (18 credits each semester) and starts in the spring semester (January) of each year. The part-time program is nine semesters in length (9 credit hours per semester) and starts in the fall semester (August) each year. Students may start their General Education courses any semester. Students should contact the program chairperson for specific curriculum and admission information.

# Respiratory Care - Associate of Applied Science

To receive this degree, you must earn 79 credits.

General Education Core . . . . .	24
Technical Core . . . . .	55

General Education Core			24 Credits
ANP	101	Anatomy and Physiology I	3
ANP	102	Anatomy and Physiology II	3
BIO	211	Microbiology	3
CHM	101	Chemistry	3
ENG	111	English Composition	3
ENG	211	Technical Writing	3
MAT	111	Intermediate Algebra	3
PSY	101	Introduction to Psychology	3

Technical Core Courses			55 Credits
RES	121	Introduction to Respiratory Care	6
RES	122	Therapeutic Modalities	3
RES	123	Cardiopulmonary Physiology	3
RES	124	Clinical Practicum I	3
RES	125	Critical Care I	3
RES	126	Clinical Medicine I	3
RES	127	Clinical Practicum II	3
RES	128	Clinical Practicum III	9
RES	221	Cardiopulmonary Diagnostics	3
RES	222	Critical Care II	3
RES	223	Pharmacology	3
RES	224	Clinical Medicine II	3
RES	229	Emergency Management	2
RES	226	Continuing Care	2
RES	227	Clinical Practicum IV	6

<b>Total</b>			<b>79 Credits</b>
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# Surgical Technology

**Degrees Available:**

Associate of Applied Science  
(67Credits)

The surgical technologist is a highly-skilled member of the surgical team, qualified by didactic and clinical education to provide safe and efficient care to the patient in the operating room. The didactic education consists of courses in Anatomy and Physiology, Microbiology, Pharmacology, Medical Law and Ethics, Surgical Techniques, and Surgical Procedures. Closely supervised clinical education is provided in local area hospitals.

The surgical technologist actively participates in surgery by performing scrub and/or circulating duties which include: passing instruments and supplies to the surgical team members, preparing and positioning the patient, operating equipment, assisting the anesthesiologist, and keeping accurate records. Students are required to complete General Education courses prior to the clinical education. The program is two calendar years in length, requiring 67 credits leading to an Associate of Applied Science degree.

The program is accredited by the Committee on Allied Health Education Accreditation with the Joint Review Committee on Education for Surgical Technologists. The full-time program begins the fall semester each year and includes the spring semester and an eleven-week summer session. The General Education courses can be started any semester. Graduates receive an Associate of Applied Science degree. Upon completion of the program students are eligible to take the National Certification Exam for Surgical Technologists.

# Surgical Technology - Associate of Applied Science

To earn this degree, you must have  
67 credits in the following areas:

General Education Core	21
Technical Core	38
Broad Core	8

<b>General Education Core</b>			<b>21 Credits</b>
ANP	101	Anatomy & Physiology I	3
ANP	102	Anatomy & Physiology II	3
BIO	211	Microbiology	3
COM	102	Introduction to Interpersonal Communication	3
ENG	111	English Composition	3
MAT	111	Intermediate Algebra OR	
MAT	110	Contemporary College Mathematics	3
PSY	101	Introduction to Psychology OR	
SOC	111	Introduction to Sociology	3
<b>Technical Core</b>			<b>38 Credits</b>
SUR	101	Surgical Techniques	3
SUR	102	Surgical Procedures I	3
SUR	103	Fundamentals of Surgical Technology	6
SUR	104	Surgical Procedures II	6
SUR	105	Clinical Applications I	9
SUR	106	Surgical Procedures III	3
SUR	107	Clinical Applications II	8
<b>Broad Core</b>			<b>8 Credits</b>
HHS	101	Medical Terminology	3
HHS	102	Medical Law/Ethics	2
MEA	113	Pharmacology	3
<b>Total</b>			<b>67 Credits</b>

Suggested courses that help develop students for required courses.  
These courses are not required and they do not count toward the  
program.

ENG	007	Spelling	1
BIO	065	Basic Life Sciences	3
PHL	071	Critical Thinking	3
CIS	074	Computer Literacy	2
IVY	070	College and Life Success Skills	3

## General Education and Support Services

The primary function of the General Education and Support Services (GESS) Division is to provide courses that add to the breadth of knowledge that each student should gain from the college experience, regardless of his or her program. General education courses at Ivy Tech are appropriate for the community-based, technical college mission and complement the depth of knowledge gained from the technical courses which are part of the academic programs. The College believes that each graduate should achieve a certain body of knowledge, held in common with all educated people.

General education courses cover a range of subjects, including communications (written and oral), social sciences (psychology, sociology, economics, political science), humanities (American history, art history, ethics, philosophy), mathematics (from college-level survey math through calculus), and life and physical sciences (physical science survey, physics, anatomy physiology, chemistry, biology, microbiology)

Ivy Tech State College offers a foundation of academic programs to assist students in successfully accomplishing their educational goals.

In addition to foundation courses in languages, mathematics, and study skills, available services include academic assessment, career assessment and counseling, tutoring, and other academic assistance. The need for these services may be identified at the time of admissions, or a student may access services upon encountering academic difficulty during a course of study. Instructors

and laboratory technicians provide supplemental instruction in math, English, science, and study skills. Ivy Tech State College students preparing for the GED examination may take a practice test and receive academic counseling.

The Computer Assisted Instruction (CAI) Lab offers a variety of Macintosh and IBM personal computers, along with a variety of software in support of foundation courses.

The General Technical Studies (GTS) certificate program provides opportunities for students who may not be ready to enter a degree program due to lack of preparation or other reasons. GTS helps these students define and meet their educational objectives. GTS serves students who may be in need of correcting deficient academic skills before enrolling in a technical degree program, have yet to decide upon pursuing a specific course of study, are seeking admission into one of the college's selective programs, wish to examine an occupational program, are in need of a career-oriented educational exploration, or are in need of an educational foundation for a related one-or two-year program and wish to pursue a one-year program of general technical studies. The GTS program is available at all 22 campuses. Interested students should contact their local campus and ask for the regional specifications of the GTS curriculum.

## General Technical Studies - Technology

The General Technical Studies Certificate Program offers students the opportunity for further education and career exploration. Students who earn the Technical Certificate and do not pursue further education could seek employment areas related to specific courses taken.

A Technical Certificate requires 30 credit hours.

Semester 1			15 Credits
ENG	111	English Composition	3
XXX	XXX	Social Science Elective	3
XXX	XXX	Science or Math Elective	3
XXX	XXX	General Electives	6

Semester 2			15 Credits
COM	XXX	COM 101 or COM 102	3
XXX	XXX	Social Science Elective	3
XXX	XXX	Humanities Elective	3
XXX	XXX	General Electives	6

<b>Total</b>				<b>30 Credits</b>
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### Recommended Electives:

Science: ANP 101, ANP 102, ANP 201, BIO 101, BIO 211, BIO 212, CHM 101, CHM 102, SCI 111, PHY 101, PHY 102

Social Science: PSY 101, PSY 201, PSY 205, SOC 111, ECN 101, ECN 201, ECN 202, POL 101

Math: MAT 111, MAT 112, MAT 121, MAT 131, MAT 132, MAT 134, MAT 135, MAT 201

Communications: COM 101, COM 102

Humanities: ARH 101, ARH 102, HSY 101, HSY 102, PHL 101, PHL 102

Note: You must meet pre-requisite requirements of each course in order to enroll in that class



# General Technical Studies - Business

The General Technical Studies Certificate Program offers students the opportunity for further education and career exploration. Students who earn the Technical Certificate and do not pursue further education could seek employment in areas related to specific courses taken.

A Technical Certificate requires 30 credit hours.

Semester 1			15 Credits
ENG	111	English Composition	3
BUS	101	Introduction to Business	3
POL	101	Introduction to American Government and Politics OR	
PSY	101	Introduction to Psychology	3
SOC	111	Introduction to Sociology	3
XXX	XXX	Elective	3
Semester 2			15 Credits
MAT	111	Intermediate Algebra OR	
MAT	112	Functional Mathematics	3
ECN	101	Economic Fundamentals	3
XXX	XXX	Elective	9
Total			30 Credits

\*Electives must be taken from your area of interest:

## Accounting:

ACC 101, ACC 102, ANP 101, BIO 101, BUS 101, BUS 102, CHM 101, \*CIS 101, COM 102, HSY 101, PSY 101, SCI 111, and SOC 111

## Office Administration:

ACC 101, ANP 101, OAD 103, BIO 101, BUS 101, BUS 102, \*CIS 101, COM 101, COM 102, CHM 101, HSY 101, POL 101, SCI 111, and SOC 111

**Business Administration:** ACC 101, BUS 101, BUS 102, BUS 105, \*CIS 101, COM 101, MKT 101, HSY 101, and SCI 111

## Computer Information Systems:

ACC 101, ANP 101, BIO 101, BUS 101, CHM 101, \*CIS 101, CIS 102, COM 101, HSY 101, PSY 101, SCI 111, and SOC 111

## Hospitality Administration:

COM 101, COM 102, HOS 102, HOS 114, HOS 144, and PSY 101

## Paralegal:

\*OAD 103, OAD 215, BIO 101, \*CIS 101, COM 101, ENG 112, LEG 101, POL 101, PSY 101, and SOC 111

\*CIS 101 and OAD 103 require a minimum of 25 words per minute typing speed.

Note: You must meet pre-requisite requirements of each class in order to enroll in that class

# General Technical Studies - Technology

The General Technical Studies Certificate Program offers students the opportunity for further education and career exploration. Students who earn the Technical Certificate and do not pursue further education could seek employment in areas related to specific courses taken.

A Technical Certificate requires 30 credit hours.

Semester 1			15 Credits
MAT	111	Intermediate Algebra	3
TEC	102	Technical Graphics	3
TEC	104	Computer Fundamentals for Technology	3
XXX	XXX	Technical Elective	3
XXX	XXX	Technical Elective	3

Semester 2			15 Credits
ENG.	OR		
COM		Communications	3
QSC	101	Quality Control Concepts	3
*TEC	113	Basic Electricity	3
XXX	XXX	General Education Course	3
XXX	XXX	Technical Elective	3

**Total** **30 Credits**

\*Students should demonstrate MAT 050 math skills by test, prerequisite or co-requisite for this course

\*\*Electives must be taken from your area of interest specialty.

## Recommended Electives:

### Automotive Service:

AMV 100, AMV 202, AST 107, AST 201, COM 101, ENG 111, HSY 101, and SOC 111

### Design Technology:

DCT 104, DCT 105, DCT 109, DCT 113, DCT 228, DSN 103, DSN 106, ECN 101, HSY 101, PHY 101, POL 101, PSY 101, SOC 111, and TEC 101

### Heating, Air Conditioning and Refrigeration:

COM 101, ENG 111, HEA 101, HEA 103, HEA 202, HSY 101, IDS 103, and IDS 114

### Industrial Maintenance:

COM 101, ENG 111, HSY 101, IDS 103, IDS 104, IDS 105, IDS 107, IDS 114, and SOC 111

### Machine Tool:

HSY 101, MTT 102, MTT 103, MTT 204, PHL 101, POL 101, PSY 101, and SOC 111

### Welding:

AIDS 102, HSY 101, SOC 111, WLD 108, WLD 109, WLD 110, and WLD 120

### Visual Communications:

VIS 101, VIS 102, VIS 115, ART 111, PHO 106

Note: You must meet pre-requisite requirements of each class in order to enroll in that class.

# General Technical Studies - Health and Human Services

The General Technical Studies Certificate Program offers students the opportunity for further education and career exploration. Students who earn the Technical Certificate and do not pursue further education could seek employment in areas related to specific courses taken.

A Technical Certificate requires 30 credit hours.

Semester 1			15 Credits
ENG	111	English Composition	3
*MAT	111	Intermediate Algebra OR	
MAT	112	Functional Mathematics	3
HHS	101	Medical Terminology	3
ANP	101	Anatomy and Physiology I OR	
HMS	101	Introduction to Human Services	3
XXX	XXX	Technical Elective	3
Semester 2			15 Credits
COM	101	Fundamentals of Public Speaking OR	
ENG	211	Technical Writing OR	3
COM	102	Introduction to Interpersonal Communication	
SOC	111	Introduction to Sociology OR	3
PSY	101	Introduction to Psychology	
ANP	102	Anatomy and Physiology II OR	3
HMS	102	Helping Relationship Techniques	
XXX	XXX	Student Elective	3
XXX	XXX	Student Elective	3
Total			30 Credits

\*Check specific program requirements before registering for your General education hours.

*Recommend that students	ENG 111	MEA 211
take HHS 101 before ANP	ENG 112	MEA 212
101 and MAT 111 before	ENG 211	POL 101
CHM 101	HHS 101	PSY 101
ANP 101	HHS 102	PSY 201
ANP 102	HMS 101	PSY 205
ANP 201	HMS 102	SCI 111
BIO 211	MAT 111	SOC 111
BIO 212	MAT 112	
CHM 101	MEA 102	
CIS 101	MEA 113	
COM 101	MEA 209	
COM 102	MEA 210	

Note: You must meet pre-requisite requirements of each class in order to enroll in that class.

# Full-Time Faculty

## Division of Business and Technology

### **Duane Alfrey**

Senior Instructor (Welding Technology).

Certification: American Welding Society, Certified Senior Industrial Technologist-NAIT

### **Dr. Susan Altman**

Instructor (Chairperson, Paralegal Technology).

J.D., University of Louisville School of Law; M.A., Eastern Kentucky University; B.A., Eastern Kentucky University

### **Margaret Baumer**

Instructor (Administrative Office Technology).

M.S., Indiana University; B.S., University of Cincinnati; A.S., Miami Jacobs College of Business

### **Thomas Bolinger**

Instructor (Business Management and Economics).

M.B.A., Indiana University; B.A., Butler University

### **Randall Bridgewater**

Instructor (Automotive Service Technology - T-TEN).

A.S.E., Master Technician, AAS, Ivy Tech State College

### **Bernadette Cinkoske**

Senior Instructor (Computer Information Systems Technology).

B.A., Indiana University

### **Michael DeBourbon**

Master Instructor (Assistant Division Chairperson, Business and Technology Division and Chairperson, Design Technology).

M.S., Indiana University; B.S., Southern Illinois University

### **Marvin Daugherty**

Master Instructor (Chairperson, Computer Information Systems Technology).

M.S., Indiana State University; B.S., Martin University; A.A.S., Ivy Tech State College; NOTCI Certification

### **Lowell Dragoo**

Instructor (NTMA Program)

### **Timothy E. Faulk**

Instructor (Public Safety -Fire Science Technology).

B.S., University State of New York

### **Ronald Finney**

Senior Instructor (Chairperson, Automotive Service Technology).

B.S., Indiana University; ASE-Master Certified Technician; and Certified Senior Industrial Technologist-NAIT, AAS, Ivy Tech State College

### **William T. Flanigan**

Instructor (Chairperson, Industrial Technologies).

M.S., Indiana Wesleyan University; B.S., Tri State University, and Certified Senior Industrial Technologist-NAIT

### **Daniel Flick**

Instructor (NTMA Program)

B.S., Indiana University

### **Alisa M. Fox**

Instructor (Design Technology).

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**Harry E. Gray**

Instructor (Accounting Technology).  
B.S., Butler University; Indiana CPA License

**Michael Hall**

Senior Instructor (Computer Information Systems Technology).  
M.S., Purdue University; B.S., Purdue University; Licensed Professional Engineer; Certified Network Instructor, Microsoft Certified Trainer

**Steve Hawkins**

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B.S., Purdue University; AAS, Vincennes University

**Joanna Head**

Senior Instructor (Administrative Office Technology).  
M.S., Butler University; B.S., Butler University

**Dr. Krista Hollenberg**

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J.D., Indiana University; M.A., Indiana University; B.A., Manchester College

**Larry E. Hoskins**

Instructor (Chairperson, Public Safety).  
B.S., Southern Illinois University; A.A.S., Indiana Vocational Technical College; Master Firefighter in Tactics, Management, Arson Investigations, Fire Prevention, Aircraft Rescue, and Fire Protection Engineering and Driver/Operator.

**James W. Irwin**

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**Vincent Kinkade**

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M.B.A., University of Indianapolis; B.A., Hanover College; A.A.S., Indiana Vocational Technical College;  
A.O.S., New England Culinary Institute

**Stephen Kuchler**

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**Gregory Leigh**

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**Debra Leverette**

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**Raymond Nealon**

Instructor (Assistant Chairperson, Business and Technology Division and Chairperson, Business Administration).  
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**Owen Lee Sensenbrenner**

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**Stephen Sharon**

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**Robert Wurtz**

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M.S., Indiana State University; B.S., Purdue University



## **Division of Health and Human Services**

### **Lana Anderson**

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### **Lori Andrews**

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### **Diana Bennett**

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M.A., DePauw University; B.S.N., DePauw University

### **Carol Bodie**

Instructor (Practical Nursing-LPN).

B.S., St. Mary of the Woods; A.S., St. Anthony Hospital.

### **Cheryl Clarkson**

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### **Barbara Deady**

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### **Patricia Dickmann**

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### **Janet Imel**

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### **Linda Fluharty**

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### **Wanda Haver**

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**Mary Ann Reklau**

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**Ann Sisel**

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B.S., Marian College; R.T., St. Mary Hospital, Madison, WI

**Marcus Stowe**

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B.S., St. Francis University; A.S., Indiana University; RRT, RCP

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**Denise Ward**

Instructor (Practical Nursing - LPN).  
B.S., Indiana University Purdue University at Indianapolis

**Willie Whitfield**

Instructor (Human Services).  
M.S., Alabama A&M University; B.A., Alabama A&M University

## **Division of General Education and Support Services**

### **Dr. Moges Bizuneh**

Senior Instructor (Anatomy/Physiology).

Ph.D., Anatomy, Indiana University; M.S., Biology, Cornell University; B.S., Public Health, Haile Sallassie University

### **Connie Bolinger**

Master Instructor (Mathematics).

M.A.T., Mathematics, Purdue University; B.A., DePauw University

### **Michael Clippinger**

Master Instructor (Division Chairperson, General Education and Support Services).

M.A., Indiana University; Certified Specialist in Developmental Education, Appalachian State University;

B.A., Indiana University

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### **Dr. Robert Dunkle**

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Ph. D., Anthropology, Purdue University; M.S., Sociology, Purdue University; B.A., Psychology, Parsons College

### **Michael Gorsline**

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M.A., Ball State University; B.A., Indiana University-South Bend

### **Marilyn Hamilton**

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### **Derrick Harding**

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### **Rebecca Hiday**

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M.S., Indiana University-Indianapolis; B.S., Ball State University

### **Dr. Ronald Hollowell**

Senior Instructor (Chairperson, English).

Ed. D., Indiana University; M.A., Indiana University; B.S., University of Indianapolis

### **Robert Keck**

Master Instructor (Science).

M.S., Indiana State (Science Ed.); M.S., College of St. Francis Health Service Adm.; B.S., University of Southern Indiana

### **Chris Land**

Instructor (Mathematics).

M.A.T., Purdue University; B.S., Purdue University

### **Ali Lotfi**

Instructor (Manager, Student Academic Support Services).

M.S., Indiana University; B.A., Tehran University

### **David E. Miller**

Master Instructor (Mathematics and Electronics Technology).

M.S., Indiana State University; B.S., Purdue University

### **Susan Miller**

Senior Instructor (Developmental Reading).

M.S., Indiana University; B.S., Indiana University

**Todd Murphy**

Instructor (Developmental Sciences).

M.S., Veterinary Science, University of Kentucky; B.S., Microbiology, University of Kentucky

**J. Stephen Noe**

Instructor (Science).

M.S., Zoology, Illinois State University; B.S., Biological Sciences, University of Notre Dame

**Kathleen Rice**

Senior Instructor (Writing).

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**Lucia Rusu**

Master Instructor (Chairperson, Science).

M.S., Purdue University; B.S., University Babes-Bolyai, Romania

**Carol Schuck**

Instructor (English)

M.A., Butler University; B.S., Ball State University

**Dr. Simin Shirzadi**

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Ed.D., Nova Southeastern University; Ed. S., Western Michigan University; M.A., Western Michigan University;

B.A., Western Michigan University

**Leroy Snare**

Senior Instructor (Mathematics/Physics).

M.S., Massachusetts Institute Technology, Cambridge; M.S., University of Missouri, Columbia; B.A., University of Missouri, Kansas City

**Janet Strandjord**

Master Instructor (Mathematics).

M.S., Indiana University; B.A., University of Illinois

**Margaret Thomas**

Senior Instructor (Mathematics).

M.A., Indiana State University; B.S., Winthrop University

**Christopher Wood**

Master Instructor (Assistant Division Chair, General Education and Support Services).

M.A., Indiana University; B.A., Indiana University

# General Education Course Descriptions

## Communications

### ENG 111 English Composition

3 Credits

Prerequisites: Successful completion of ENG 025 - Introduction to College Writing II and ENG 032 - Reading Strategies for College II or demonstrated competency through appropriate assessment (ASSET Writing and Reading sections, 41 or higher, COMPASS Writing, 70-100 and COMPASS Reading, 80-100). Provides a foundation in rhetorical principles, communication strategies and inquiry processes that can be successfully applied in personal, academic or professional writing situations. Initiates and integrates the composing process with critical reading and thinking.

### ENG 112 Exposition and Persuasion

3 Credits

Prerequisites: ENG 111 - English Composition. Builds on the writing skills taught in ENG 111 and emphasizes research-based analytic and persuasive writing. Requires students to complete other collaborative and individual projects.

### ENG 211 Technical Writing

3 Credits

Prerequisites: ENG 111 - English Composition. Builds on the writing skills taught in ENG 111. Requires students to prepare technical reports for various purposes using standard research techniques, documentation and formatting as appropriate. Requires students to demonstrate both written and oral competencies.

### COM 101 Fundamentals of Public Speaking

3 Credits

Prerequisites: Successful completion of ENG 025 - Introduction to College Writing II and ENG 032 - Reading Strategies for College II or demonstrated competency through appropriate assessment (ASSET Writing and Reading sections, 41 or higher, COMPASS Writing, 70-100 and COMPASS Reading, 80-100). Introduces fundamental concepts and skills for effective public speaking, including preparation and delivery of informative and persuasive presentations. Includes instruction in the use of visual aids and critical listening.

### COM 102 Introduction to Interpersonal Communication

3 Credits

Prerequisites: Successful completion of ENG 025 - Introduction to College Writing II and ENG 032 - Reading Strategies for College II or demonstrated competency through appropriate assessment (ASSET Writing and Reading sections, 41 or higher, COMPASS Writing, 70-100 and COMPASS Reading, 80-100). Focuses on the process of interpersonal communication as a dynamic and complex system of interactions. Stresses the importance of understanding and applying interpersonal communication theory in work, family and social relationships. Uses lecture/discussion format.

## Social Sciences

### ECN 101 Economics Fundamentals

3 Credits

Prerequisites: Demonstrated competency through appropriate assessment or ENG 025 - Introduction to College Writing II, ENG 032 - Reading Strategies for College II and MAT 050 - Basic Algebra. Provides an introduction to the fundamentals of economics and their application to current economic problems.

### ECN 201 Principles of Macroeconomics

3 Credits

Prerequisites: Demonstrated competency through appropriate assessment or ENG 025 - Introduction to College Writing II, ENG 032 - Reading Strategies for College II and MAT 111 - Intermediate Algebra or MAT 112 - Functional Mathematics. Develops a conceptual understanding of the forces affecting the level of national income, employment, interest rates and prices.

### ECN 202 Principles of Microeconomics

3 Credits

Prerequisites: Demonstrated competency through appropriate assessment or ENG 025 - Introduction to College Writing II and ENG 032 - Reading Strategies for College II, and MAT 111 - Intermediate Algebra or MAT 112 - Functional Mathematics. Develops an understanding of the process by which the market price mechanism allocates resources and influences individual behavior.

### POL 101 Introduction to American Government and Politics

3 Credits

Prerequisites: Demonstrated competency through appropriate assessment or ENG 025 - Introduction to College Writing II and ENG 032 - Reading Strategies for College II. Introduces the foundations, nature, and dynamics of American government and

politics including constitutional foundations, civil liberties and civil rights, federalism, political parties, public opinion, interest groups, media, nominations, campaigns, elections, the presidency, the judiciary, congress, bureaucracies, and public policy.

**PSY 101 Introduction to Psychology**

**3 Credits**

Prerequisites: Demonstrated competency through appropriate assessment or ENG 025 - Introduction to College Writing II and ENG 032 - Reading Strategies for College II, and MAT 044 - Mathematics. Provides a general survey of the science of psychology. Includes the study of research methodology, emotion, biological foundations, learning and cognition, perception, development, personality, abnormal psychology, and social psychology.

**PSY 201 Lifespan Development**

**3 Credits**

Prerequisites: PSY 101 - Introduction to Psychology or SOC 111 - Introduction to Sociology. Covers human development from conception to death. Covers relevant research for each period.

**PSY 205 Abnormal Psychology**

**3 Credits**

Prerequisites: PSY 101 - Introduction to Psychology. Examines theories and research related to mental illness as well as etiology, pathology, and treatment methods. Includes description of various disorders and personality problems.

**SOC 111 Introduction to Sociology**

**3 Credits**

Prerequisites: Demonstrated competency through appropriate assessment or ENG 025 - Introduction to College Writing II and ENG 032 - Reading Strategies for College II, and MAT 044 - Mathematics. Introduces students to the science of human society, including fundamental concepts, descriptions, and analyses of society, culture, the socialization process, social institutions, and social change.

**Humanities**

**ARH 101 Survey of Art and Culture I**

**3 Credits**

Prerequisites: Demonstrated competency through appropriate assessment or ENG 025 - Introduction to College Writing II and ENG 032 - Reading Strategies for College II. Surveys painting, sculpture and architectural styles of ancient Mediterranean cultures to the Renaissance period. Provides a foundation for the study of art history.

**ARH 102 Survey of Art and Culture II**

**3 Credits**

Prerequisites: Demonstrated competency through appropriate assessment or ENG 025 - Introduction to College Writing II and ENG 032 - Reading Strategies for College II. Surveys painting, sculpture and architectural styles from the Renaissance through the 20th Century. Emphasizes developing analytical skills.

**HSY 101 Survey of American History I**

**3 Credits**

Prerequisites: Demonstrated competency through appropriate assessment or ENG 025 - Introduction to College Writing II and ENG 032 - Reading Strategies for College II. Covers major themes and events in American history from the discovery era to the Civil War and Reconstruction.

**HSY 102 Survey of American History II**

**3 Credits**

Prerequisites: Demonstrated competency through appropriate assessment or ENG 025 - Introduction to College Writing II and ENG 032 - Reading Strategies for College II. Covers major themes and events in American history from the Civil War and Reconstruction to the present.

**PHL 101 Introduction to Philosophy**

**3 Credits**

Prerequisites: ENG 111 - English Composition. Examines fundamental questions of philosophy such as the foundations of morality, skepticism and knowledge, the nature of mind, free will and determinism, and the existence of God. Emphasizes the evaluation of arguments and analysis of concepts.

**PHL 102 Introduction to Ethics**

**3 Credits**

Prerequisites: ENG 111 - English Composition. Examines major theories of ethics, theoretical issues, moral problems and issues, and our responsibility to future generations.



## Mathematics

### MAT 111 Intermediate Algebra

3 Credits

Prerequisites: A scaled score of 40 or higher on the Elementary Algebra section of the ASSET assessment, or a COMPASS score of 41-65 on the Algebra section, or successful completion of MAT 050 - Basic Algebra. Reviews algebraic terminology and laws, basic operations with real numbers and polynomials, scientific notation, linear equations and graphs, and factoring algebraic expressions. Provides an in-depth study of rational expressions, systems of linear equations, radicals, radical equations, and quadratic equations. Introduces functions and function notation.

### MAT 112 Functional Mathematics

3 Credits

Prerequisites: A scaled score of 40 or higher on the Elementary Algebra section of the ASSET assessment, or a COMPASS score of 41-65 on the Algebra section, or successful completion of MAT 050 - Basic Algebra. Through real-world approaches, presents mathematical concepts of measurement, proportion, geometry, equation solving, and statistics.

### MAT 115 Statistics

3 Credits

Prerequisites: A scaled score of 41 or higher on the Intermediate Algebra section of the ASSET assessment or a COMPASS score of 66 or higher on the Algebra section, or successful completion of MAT 112 - Functional Mathematics or MAT 111 - Intermediate Algebra. Provides study in the collection, interpretation and presentation of descriptive and inferential statistics, including measures of central tendency, probability, binomial and normal distributions, hypothesis testing of one- and two-sample populations, confidence intervals, chi-square testing, correlation, data description and graphical representations.

### MAT 121 Geometry-Trigonometry

3 Credits

Prerequisites: A raw score of 13 or higher on the Geometry section of the ASSET assessment, or successful completion of MAT 111 - Intermediate Algebra or MAT 112 - Functional Mathematics. Provides study in geometry and trigonometry including polygons, similar figures, geometric solids, properties of circles, constructions, right triangles, angle measurements in radians and degrees, trigonometric functions and their application to right triangles. Pythagorean theorem, laws of sine and cosine, graphing of trigonometric functions, trigonometric identities, vectors and coordinate conversions.

### MAT 131 Algebra/Trigonometry I

3 Credits

Prerequisites: A scaled score of 41 or higher on the Intermediate Algebra section of the ASSET assessment, or successful completion of MAT 111 - Intermediate Algebra. Provides study in algebra, including functions, exponential rules, linear equations, radicals, vectors, right triangle trigonometry, oblique triangles, graphs of sine and cosine functions.

### MAT 132 Algebra/Trigonometry II

3 Credits

Prerequisites: Demonstrated mathematics competency through test-out or successful completion of MAT 131 - Algebra/Trigonometry I. Continues study in algebra and trigonometry including systems of equations, graphing of trigonometric functions, trigonometric equations, rectangular and polar coordinates, complex numbers, exponential and logarithmic functions and conics.

### MAT 133 College Algebra

4 Credits

Prerequisites: A scaled score of 41 or higher on the Intermediate Algebra section of the ASSET assessment, or successful completion of MAT 111 - Intermediate Algebra. Presents an in-depth study of polynomials, radicals, rational expressions, inequalities, complex numbers, functions, matrices, graphs, and conics.

### MAT 134 Trigonometry

2 Credits

Prerequisites: A scaled score of 41 or higher on the Intermediate Algebra section of the ASSET assessment, or successful completion of MAT 111 - Intermediate Algebra. Presents an in-depth study of vectors, right triangle trigonometry, oblique triangles, graphs of trigonometric functions, and an introduction to complex numbers.

### MAT 135 Finite Math

3 Credits

Prerequisites: A scaled score of 41 or higher on the College Algebra section of the ASSET assessment, or a COMPASS score of 46 or higher on the College Algebra section, or successful completion of MAT 111 - Intermediate Algebra. Surveys solving and graphing linear inequalities, elementary set theory, matrices and their applications, linear programming and elementary probability.

### MAT 201 Brief Calculus

3 Credits

Prerequisites: A COMPASS score of 46 or higher on the Trigonometry section (ASSET cannot be used), or MAT 111 - Intermediate Algebra and one of the following: MAT 121 - Geometry-Trigonometry, MAT 132 - Algebra/Trigonometry II, MAT



133 - College Algebra or MAT 135 - Finite Math. Studies the fundamental concepts and operations of calculus, including the study of functions, limits, continuity, derivatives, points-of-inflection, first-derivative test, concavity, second-derivative test, optimization, antiderivatives, integration by substitution, integration by parts, and elementary applications of a definite integral.

## **Life and Physical Sciences**

### **ANP 101 Anatomy and Physiology I**

**3 Credits**

Prerequisites: Demonstrated competency through appropriate assessment or ENG 025 - Introduction to College Writing II and ENG 032 - Reading Strategies for College II, and MAT 044 - Mathematics. Develops a comprehensive understanding of the close inter-relationship between anatomy and physiology as seen in the human organism. Introduces students to the cell, which is the basic structural and functional unit of all organisms, and covers tissues, integument, skeleton, muscular and nervous systems as an integrated unit.

### **ANP 102 Anatomy and Physiology II**

**3 Credits**

Prerequisites: ANP 101 - Anatomy and Physiology I. Continues the study of the inter-relationships of the systems of the human body.

### **ANP 201 Advanced Human Physiology**

**4 Credits**

Prerequisites: ANP 102 - Anatomy and Physiology II. Provides a study of human physiology for students entering health-oriented fields. Emphasizes the study of the function of the nervous, muscular, circulatory, respiratory, urinary, digestive and endocrine systems, and their homeostatic mechanisms and system interaction. Focuses laboratory exercises on clinically relevant measurement of human function.

### **ANP 203 Human Anatomy and Physiology I**

**5 Credits**

Prerequisites: Demonstrated competency through appropriate assessment or ENG 025 - Introduction to College Writing II, ENG 032 - Reading Strategies for College II, and MAT 044 - Mathematics. Provides a comprehensive study of the interrelationship between anatomy and physiology from chemical to cellular to organ interactions. Provides an in-depth study of each system of the body from a viewpoint of structure as well as function.

### **ANP 204 Human Anatomy and Physiology II**

**5 Credits**

Prerequisites: ANP 203 - Human Anatomy and Physiology I. Provides the remaining comprehensive study of the interrelationship between anatomy and physiology from chemical to cellular to organ interactions. Provides an in-depth study of each system of the body from a viewpoint of structure as well as function.

### **BIO 101 Introductory Biology**

**3 Credits**

Prerequisites: Demonstrated competency in writing, reading, and computation through appropriate assessment or successful completion of ENG 025 - Introduction to College Writing II and ENG 032 - Reading Strategies for College II, and MAT 044 - Mathematics. Introduces the basic concepts of life. Includes discussion of cellular and organismal biology, genetics, evolution, ecology and interaction among all living organisms. Addresses applications of biology to society.

### **BIO 211 General Microbiology**

**3 Credits**

Prerequisites: Demonstrated competency through appropriate assessment of ENG 025 - Introduction to College Writing II and ENG 032 - Reading Strategies for College II, and MAT 044 - Mathematics. Presents an overview of microbiology which includes fundamentals, methods and materials. Introduces industrial and clinical microbiology, and special topics.

### **BIO 212 General Microbiology II**

**2 Credits**

Prerequisites: BIO 211 - General Microbiology and ANP 101 - Anatomy and Physiology I. Presents a secondary study of bacteria, viruses, fungi, rickettsia, and parasites. Emphasizes the study of bacterial growth and control demonstrated by serological techniques.

### **CHM 101 Chemistry I**

**3 Credits**

Prerequisites: Demonstrated competency in writing, reading, and computation through appropriate assessment or successful completion of ENG 025 - Introduction to College Writing II, ENG 032 - Reading Strategies for College II, and MAT 111 - Intermediate Algebra. Includes the science of chemistry and measurement, atomic theory and the periodic table, chemical bonding, stoichiometry and gases.

**CHM 102 Chemistry II** 3 Credits  
Prerequisites: CHM 101 - Chemistry I. Includes liquids and solids, solutions and solution concentrations, acids and bases, equilibrium, nuclear chemistry, and organic and biochemistry.

**PHY 100 Technical Physics** 4 Credits  
Prerequisites: MAT 111 - Intermediate Algebra. Pre or Corequisites: MAT 121 - Geometry-Trigonometry or MAT 131 - Algebra/Trigonometry I. Introduces the concepts and applications of physics. Leads students to develop an integrated understanding of the theory and applications of measuring (or unit) systems, scalars, vectors, force, work, rates, energy, momentum, power, force transformers (simple machines), vibrations and waves, and time constants. Emphasizes understanding concepts, factual knowledge, computation and application.

**PHY 101 Physics I** 4 Credits  
Prerequisites: MAT 121 - Geometry-Trigonometry, or MAT 131 - Algebra/Trigonometry I, or MAT 134 - Trigonometry. Introduces the basic concepts of mechanics, including force and torque, linear and rotational motion, work, energy and power, simple machines, fluids, and the physics of heat

**PHY 102 Physics II** 4 Credits  
Prerequisites: PHY 101 - Physics I. Introduces the physics of light, periodic and wave motion, electricity and magnetism, and concepts of modern and current physics.

**SCI 111 Physical Science** 3 Credits  
Prerequisites: Demonstrated competency through appropriate assessment or ENG 025 - Introduction to College Writing II, ENG 032 - Reading Strategies for College II, and MAT 050 - Basic Algebra. Introduces physical concepts and theories pertaining to current applications and trends in physics, chemistry, earth science and astronomy. Emphasizes concepts and factual knowledge.

#### **Foundation Courses**

**ENG 001 Elementary English as a Second Language** 3 Credits  
Prerequisites: Demonstrated ability to write and understand simple statements and questions on familiar topics. The suggested range on the English Placement Test is 16-35. Emphasizes writing elementary statements, reading and understanding elementary materials, and expanding competence in speaking and listening.

**ENG 002 Intermediate English as a Second Language** 3 Credits  
Prerequisites: Demonstrate intermediate competency in English with ability to read, write, and speak with control of basic language structures. The suggested range on the English Placement Test is 36-54. Emphasizes writing, reading and speaking with increasing competence in academic and social situations.

**ENG 003 Pre-Academic English as a Second Language** 3 Credits  
Prerequisites: Demonstrate fair control of most sentence structure, expository materials, statement and conversation in social and academic settings. The suggested range on the English Placement Test is 55-65. Emphasizes paragraph organization, reading and understanding expository and academic materials through vocabulary development. Develops comprehension of social and academic conversations and lectures.

**ENG 004 Academic English as a Second Language** 3 Credits  
Prerequisites: Demonstrate ability to write with some ease, understands expository academic reading material, understand lectures and converse in academic and social situations. The suggested range on the English Placement Test is 66-84. Emphasizes organization of expository writing, finding main ideas and details in academic texts, and understanding and speaking in academic settings

**ENG 010 English As A Second Language - Reading I** 3 Credits  
Prerequisites: CASAS/IRCA Pre-enrollment Appraisal. Develops basic reading skills in English using texts on subjects relating to American culture. Emphasizes vocabulary acquisition, dictionary use, reading strategies for basic comprehension and interpretation. Uses collaborative technique of student interaction.

**ENG 011 English As A Second Language - Reading II****3 Credits**

Prerequisites: Level I ESL Reading Mastery. Stresses comprehension skills using texts which focus on American cultural values. Focuses on vocabulary expansion, comprehension and interpretation strategies, and experience with various forms of reading material

**ENG 012 English As A Second Language - Reading III****3 Credits**

Prerequisites: ENG 011 - English As A Second Language - Reading II. Stresses comprehension skills and reading strategies for academic materials. Focuses on vocabulary expansion, transitional development, theme development, and critical analysis of academic writing. Allows for practice in increased reading proficiency.

**ENG 013 English As A Second Language - Listening/Speaking I****3 Credits**

Prerequisites: CASAS/IRCA Pre-Enrollment Appraisal. Focuses on listening and speaking strategies for comprehensible input. Provides practice recognizing and producing speech patterns of American English. Allows for conversational practice on topics of cultural values and behaviors

**ENG 014 English As A Second Language - Listening/Speaking II****3 Credits**

Prerequisites: Level I ESL Listening/Speaking Mastery. Provides practice in recognizing and producing speech patterns of American English. Allows for conversational practice with emphasis on cross-cultural values and behaviors and the use of idioms

**ENG 015 English As A Second Language - Listening/Speaking III****3 Credits**

Prerequisites: ENG 014 - English As A Second Language - Listening/Speaking II. Provides experience in recognizing and producing speech patterns of American English. Allows for conversational practice relating to academic and cultural subjects, with an emphasis on critical thinking skills expressed verbally

**ENG 016 English As A Second Language - Grammar/Structure I****3 Credits**

Prerequisites: CASAS/IRCA Pre-enrollment Appraisal. Focuses on the acquisition of basic patterns of structure and syntax for controlled communication. Emphasis is on the form, meaning, and usage of basic structures in American English, providing practice through extensive and varied communicative activities.

**ENG 017 English As A Second Language - Grammar/Structure II****3 Credits**

Prerequisites: Level I ESL Grammar/Structure Mastery. Focuses on the study of patterns of more advanced structure and syntax. Emphasis is on the acquisition of sentence structure for verbal and written communication of the relationship of ideas

**ENG 018 English As A Second Language - Grammar/Structure III****3 Credits**

Prerequisites: ENG 017 - English As A Second Language - Grammar/Structure II. Focuses on the acquisition of more advanced patterns of structure and syntax. Emphasis is on the development of competent verbal and written expression in critical analysis for academic purposes.

**ENG 019 English As A Second Language - Writing I****3 Credits**

Prerequisites: CASAS/IRCA Pre-enrollment Appraisal. Focuses on conventions for basic written communication in English, emphasizing sentence construction and paragraph development. Uses writing strategies to produce coherent expression in journals, free writing exercises, paragraphing, and short essays. Student collaboration is a part of the learned writing process

**ENG 020 English As A Second Language - Writing II****3 Credits**

Prerequisites: Level ESL Writing Mastery. Focuses on techniques of written communication for coherent expression of ideas, through paragraph development and essay writing. Emphasizes the writing process using strategies of revision and editing through peer collaboration. Stresses the structure and syntax of written expression for effective communication.

**ENG 021 English As A Second Language - Writing III****3 Credits**

Prerequisites: ENG 020 - English As A Second Language - Writing II. Focuses on techniques of written communication for the analysis and elaboration of academic material through paragraph and essay writing. Emphasizes the strategies of the writing process through rhetorical modes of composition for varied purposes. Extensive use of structure and syntax for thoroughly coherent expression

## Language Arts

### ENG 007 Spelling

3 Credits

Prerequisites: None. Improves basic spelling competencies through practice and attention to spelling rules and exceptions.

### ENG 024 Introduction to College Writing I

3 Credits

Prerequisites: Demonstrated competency through appropriate assessment (ASSET 32-37, COMPASS 23-51). Enables the beginning college writer to develop control of the writing process through writings which are focused, organized, and well developed. Requires students to demonstrate proficiency in basic standard writing conventions, including grammar and mechanics.

### ENG 025 Introduction to College Writing II

3 Credits

Prerequisites: Successful completion of ENG 024 - Introduction to College Writing I or demonstrated competency through appropriate assessment (ASSET 38-40, COMPASS 52-69). Builds on the competencies learned in ENG 024 - Introduction to College Writing I and prepares students for entry into English 111. Enables beginning college writers to expand control of the writing process through writings which are focused, organized and well developed. Requires students to demonstrate increased proficiency in the use of standard writing conventions.

### ENG 028 Vocabulary Building

1 Credit

Prerequisites: None. Focuses on developing general English vocabulary. Includes dictionary skills, context skill and work structure analysis.

### ENG 031 Reading Strategies for College I

3 Credits

Prerequisites: Demonstrated competency through appropriate assessment (ASSET 32-35, COMPASS 44-65). Increases performance in reading comprehension, vocabulary and flexibility. Introduces critical reading skills and study strategies.

### ENG 032 Reading Strategies for College II

3 Credits

Prerequisites: Successful completion of ENG 031 - Reading Strategies for College I or demonstrated competency through appropriate assessment (ASSET 37-39, COMPASS 66-79). Enhances performance in reading flexibility, vocabulary and comprehension beyond the level of ENG 031 - Reading Strategies for College I. Emphasizes critical reading and strategies for effective study.

## Mathematics

### MAT 044 Mathematics

3 Credits

Prerequisites: Demonstrated competency on the numerical skills section of the assessment (ASSET 32-40, COMPASS 19-43). Reviews fractions and decimals. Concentrates on ratio, proportion, percents, measurement, signed numbers, equations and their applications

### MAT 050 Basic Algebra

3 Credits

Prerequisites: Successful completion of MAT 044 - Mathematics or demonstrated competency through appropriate assessment (numerical skills section - ASSET 41+, COMPASS 44-100), (pre-algebra section - ASSET 23-38, COMPASS 0-40). Reviews signed numbers and simple equation solving. Concentrates on integer exponents, scientific notation, linear and literal equations, polynomial operations, polynomial factoring, and graphing skills in preparation for intermediate algebra.

## Life and Physical Sciences

### CHM 061 Basic Chemistry

3 Credits

Prerequisites: Successful completion of ENG 032 - Reading Strategies for College II and MAT 050 - Basic Algebra, or demonstrated competency in the reading section (ASSET 41+, COMPASS 80-100) and the algebra section (ASSET 40-53, COMPASS 41-100) of the assessment. Provides students with an introduction to chemistry basics. Provides instruction for students with little or no recent chemistry background, especially those desiring to continue in more advanced chemistry courses or other science courses.

### BIO 065 Basic Life Sciences

3 Credits

Prerequisites: Success completion of ENG 031 - Reading Strategies for College I, and MAT 044 - Mathematics or demonstrated competency on reading section (ASSET 37+, COMPASS 66+) and mathematics section (ASSET 41+, COMPASS 44-100) of the assessment. Introduces the scientific method and basic concepts and terminology used in biology, microbiology, anatomy, physiology and organic chemistry which is related to life sciences. Prepares entering students who took no high school science or who took science several years ago for general education life sciences courses.

## College Orientation

### **IVY 070 College and Life Success Skills**

**3 Credits**

Prerequisites: Minimum entry assessment at the ENG 024 - Introduction to College Writing I (ASSET 32-37, COMPASS 23-51) and ENG 031 - Reading Strategies for College I level (ASSET 32-35, COMPASS 44-65). Enhances success in college by assisting students in obtaining skills necessary to reach their educational, career, and life objectives. Topics include time management, memory techniques, reading techniques, note taking, test taking, problem solving and decision making, group interaction, and resource utilization.

### **PHL 071 Critical Thinking**

**3 Credits**

Prerequisites: Successful completion of ENG 025 - Introduction to College Writing II and ENG 032 - Reading Strategies for College II or demonstrated competency on the writing section (ASSET 41+, COMPASS 70-100) and the reading section (ASSET 41+, COMPASS 80-100) of the assessment. Assists students in developing critical thinking strategies with academic and workplace applications

### **CIS 074 Computer Literacy**

**2 Credits**

Prerequisites: Successful completion of ENG 025 - Introduction to College Writing II and ENG 032 - Reading Strategies for College II or demonstrated competency on the writing section (ASSET 41+, COMPASS 70-100) and the reading section (ASSET 41+, COMPASS 80-100) of the assessment. Provides a general survey of computer basics. Includes the survey and analysis of microcomputer components, compares and contrasts computer applications, investigates software options, exposes students to hardware peripherals and introduces students to DOS operations.

### **OAD 019 Keyboarding**

**3 Credits**

Prerequisites: None. Provides students with the fundamentals of keyboarding using the touch method. Emphasizes mastery of the keyboard, development of speed and accuracy.

### **OAD 029 Speed and Accuracy Development**

**1 Credit**

Prerequisites: OAD 019 - Keyboarding. Designed to diagnose individual keyboarding speed and accuracy skills and bring those skills to an employable level.

## **(Alphabetical Order)**

### **ACC 101 Accounting Principles I**

**3 Credits**

Prerequisites: ENG 025 - Introduction to College Writing II, ENG 032 - Reading Strategies for College II, MAT 044 - Mathematics, or demonstrated competencies. Introduces the fundamental principles, techniques, and tools of accounting. Presents the mechanics of the accounting cycle including collecting, recording, summarizing, analyzing, and reporting information pertaining to service and mercantile enterprises. Covers internal control, deferred charges, notes and interest, valuation of receivables, payrolls, inventories, and plant assets

### **ACC 102 Accounting Principles II**

**3 Credits**

Prerequisites: ACC 101 - Accounting Principles I. Continues the study of accounting to include partnership and corporate accounting systems. Covers preparation and analysis of financial statements and long-term liabilities and investments. Introduces cost, managerial, branch, and nonprofit accounting techniques

### **ACC 105 Income Tax I**

**3 Credits**

Prerequisites: ACC 101 - Accounting Principles I (or) with program advisor approval. Offers an overview of federal and state income tax law for individuals including taxable income, capital gains and losses, adjustments, standard and itemized deductions, tax credits and appropriate tax forms. Introduces tax concepts needed by a sole proprietorship

### **ACC 106 Payroll Accounting**

**3 Credits**

Prerequisites: ACC 101 - Accounting Principles I. Covers payroll calculating and reporting including various federal and state withholding taxes, employer payroll taxes, typical insurance and other arrangements affecting the preparation of payroll registers, and employees' earnings records. Includes computerized payroll.



**ACC 107 Accounting for Recordkeeping** **3 Credits**  
Prerequisites: None. Provides instruction for non-accounting majors, with special emphasis on the trade professions. Covers the cash basis of recordkeeping for materials, payroll, depreciation, and financial statements. Introduces the operation of petty cash funds, basic cash budgeting, and controlling cash through the use of a checkbook. Covers financial ratios, construction accounting methods, and computing customer estimates.

**ACC 108 Career Essentials of Accounting** **3 Credits**  
Prerequisites: None. Introduces the basic principles of accounting as utilized in a variety of office settings. Includes the principles of debit and credit, double-entry bookkeeping, use of journals, and analyzing transactions. Covers uses of ledgers, posting procedures, petty cash, banking procedures, payroll, depreciation, work sheets, balance sheets, and income statements.

**ACC 109 Personal Finance** **3 Credits**  
Prerequisites: None. Examines the process of setting and achieving financial goals. Emphasizes managing financial resources, budgeting for current expenses, projecting cash flow, and managing short- and long-term credit. Includes use of insurance to reduce risks and vehicles for saving and investing.

**ACC 111 Accounting Principles Lab I** **1 Credit**  
Prerequisites: Enrollment in ACC 101 - Accounting Principles I (or) with program advisor approval. Presents a series of planned accounting learning problems and activities designed to accompany concepts and theories included in an Accounting Principles I course. Introduces the touch-method of numeric input on a calculator and includes computerized problems.

**ACC 112 Accounting Principles Lab II** **1 Credit**  
Prerequisites: Enrollment in ACC 102 - Accounting Principles II (or) with program advisor approval. Presents a series of planned accounting learning problems and activities designed to accompany concepts and theories included in the Accounting Principles II course. Uses computerized problems.

**ACC 113 Income Tax Lab** **1 Credit**  
Prerequisites: Enrollment in ACC 105 - Income Tax I (or) with program advisor approval. Presents a series of planned accounting learning problems and activities designed to accompany concepts and theories included in the Income Tax I course. Uses computerized problems.

**ACC 114 Payroll Accounting Lab** **1 Credit**  
Prerequisites: Enrollment in ACC 106 - Payroll Accounting (or) with program advisor approval. Presents a series of planned accounting learning problems and activities designed to accompany concepts and theories included in the Payroll Accounting course. Uses computerized problems.

**ACC 118 Financial Concepts for Accounting** **3 Credits**  
Prerequisites: None. Develops math skills needed in the business field and serves as a basis for course work in business. Includes the study of business applications using rational numbers, algebraic equations, time value of money concepts, and basic statistics.

**ACC 201 Intermediate Accounting I** **3 Credits**  
Prerequisites: ACC 102 - Accounting Principles II. Studies accounting principles and applications at an intermediate level pertaining to the income statement and balance sheet, cash and short-term investments, receivables, inventories, plant assets and intangible assets, current and contingent liabilities, corrections of errors, and statement of cash flows. Includes analysis of bad debts, inventory valuation, repairs and maintenance, depreciation of plant assets, and present value applications.

**ACC 202 Intermediate Accounting II** **3 Credits**  
Prerequisites: ACC 201 - Intermediate Accounting I. Continues studies of Intermediate Accounting I. Includes investments, long-term debt, stockholders' equity, special accounting problems and analysis, statement of cash flows and financial statement analysis. Also includes corporate capital and treasury stock transactions, dividends, earnings per share, accounting for income taxes, correction of errors, and creation of financial statements from incomplete records.

**ACC 203 Cost Accounting I** **3 Credits**  
Prerequisites: ACC 102 - Accounting Principles II. Examines the manufacturing process in relation to the accumulation of specific costs of manufactured products. Studies various cost accounting report forms, material, labor control, and allocation of manufacturing costs to jobs and departments.

<b>ACC 204 Cost Accounting II</b> Prerequisites: ACC 203 - Cost Accounting I. Continues Cost Accounting I. Studies the master or comprehensive budget, flexible budgeting, and capital budgeting. Emphasizes tools for decision making and analysis. Introduces human resource accounting.	<b>3 Credits</b>
<b>ACC 205 Seminar in Accounting</b> Prerequisites: Program advisor approval. Allows accounting students an opportunity to pursue specific areas of interest at a more advanced level in accounting.	<b>1 Credit</b>
<b>ACC 206 Managerial Accounting</b> Prerequisites: ACC 101 - Accounting Principles I. Provides an understanding of accounting records and management decision making, with topics including internal accounting records, and quantitative business analysis.	<b>3 Credits</b>
<b>ACC 207 Accounting for Government and Nonprofit Entities</b> Prerequisites: ACC 101 - Accounting Principles I (or) with program advisor approval. Emphasizes the similarities and differences between government, nonprofit and commercial accounting methods, and procedures. Exposes students to the basic fund accounting cycle for the general fund and other special funds.	<b>3 Credits</b>
<b>ACC 208 Income Tax II</b> Prerequisites: ACC 103 - Income Tax I. Continues Income Tax I. Studies procedures and problems pertaining to federal and state income tax laws for partnerships and corporations. Includes a review and in-depth study of concepts related to proprietorships covered in Income Tax I.	<b>3 Credits</b>
<b>ACC 209 Auditing</b> Prerequisites: ACC 201 - Intermediate Accounting I. Covers public accounting organization and operation including internal control, internal and external auditing, verification and testing of the balance sheet and operating accounts, and the auditor's report of opinion of the financial statements.	<b>3 Credits</b>
<b>ACC 210 Money and Banking</b> Prerequisites: None. Studies monetary and banking theories as they relate to present-day domestic and international problems. Topics include banking operations, price changes, international monetary relationships, and application of monetary and fiscal policy.	<b>3 Credits</b>
<b>ACC 212 Business Finance</b> Prerequisites: None. Introduces basic tools and techniques of financial analysis and management and sources of financial and economic theory as applied to business finance. Includes conceptual materials related to valuation, capital structure formulation, and risk-return consideration.	<b>3 Credits</b>
<b>ACC 213 Electronic Spreadsheets in Business</b> Prerequisites: Computer literacy or equivalent, ACC 101 - Accounting Principles I. Provides instruction in the use of all modules of a spreadsheet software package including spreadsheet, graphics and database operations, and applying these modules to business problems.	<b>3 Credits</b>
<b>ACC 214 Consumer and Commercial Credit</b> Prerequisites: None. Provides instruction for retail, service, wholesale and manufacturing firms extending credit to clients. Explores theory, principles and practice of consumer and commercial credit related to business activity and economic impact. Examines managerial functions of collecting and controlling credit to consumers and businesses. Emphasizes credit plans, credit and sales, short-term and intermediate credit, and legal aspects of credit.	<b>3 Credits</b>
<b>ACC 215 Credit Procedures and Collections</b> Prerequisites: None. Examines credit as a means of extending purchasing power, i.e., increased buying power, immediate use of money, merchandise or services and delayed payment. Covers concepts of credit and principles and methods of credit administration involving individuals and businesses. Includes information on credit policy, credit control, credit decision making and legal remedies.	<b>3 Credits</b>



<b>ACC 216 Credit Management</b>	<b>3 Credits</b>
Prerequisites: None. Explores functions of acquiring cycle of credit and management function of control cycle. Combines lectures, discussions, individual research, and projects with written and oral presentations of findings and results.	
<b>ACC 217 Intermediate Accounting Lab I</b>	<b>1 Credit</b>
Prerequisites: Enrollment in ACC 201 - Intermediate Accounting I (or) with program advisor approval. Presents a series of planned accounting learning problems and activities designed to accompany concepts and theories included in Intermediate Accounting I. Uses computerized problems.	
<b>ACC 218 Intermediate Accounting Lab II</b>	<b>1 Credit</b>
Prerequisites: Enrollment in ACC 202 - Intermediate Accounting II (or) with program advisor approval. Presents a series of planned accounting learning problems and activities designed to accompany concepts and theories included in Intermediate Accounting II. Uses computerized problems.	
<b>ACC 219 Cost Accounting Lab</b>	<b>1 Credit</b>
Prerequisites: Enrollment in ACC 203 - Cost Accounting I (or) with program advisor approval. Presents a series of planned accounting learning problems and activities designed to accompany concepts and theories included in Cost Accounting I. Uses computerized problems.	
<b>ACC 220 Special Applications Lab I</b>	<b>1 Credit</b>
Prerequisites: Program advisor approval. Presents a series of planned accounting learning problems and activities designed to accompany concepts and theories included in an accounting course. Uses computerized problems.	
<b>ACC 221 Special Applications Lab II</b>	<b>1 Credit</b>
Prerequisites: Program advisor approval. Presents a series of planned accounting learning problems and activities designed to accompany concepts and theories included in an accounting course. Uses computerized problems.	
<b>ACC 222 Accounting Software Applications</b>	<b>2 Credits</b>
Prerequisites: ACC 102 - Accounting Principles II. Solves accounting problems using software similar to what is currently used in business. Includes installation, operation, and analysis of an accounting software package.	
<b>ACC 223 Advanced Topics in Accounting</b>	<b>2 Credits</b>
Prerequisites: Program advisor approval. Discusses topics of current interest in accounting. Focuses on special interest projects for students in accounting. Includes trips, guest speakers, audio-visual activities, and seminars.	
<b>ACC 224 Construction Bidding</b>	<b>3 Credits</b>
Prerequisites: ACC 203 - Cost Accounting I. Examines bidding procedures, contract documents, contracts, bonds, and insurance. Describes materials and installation procedures and how they may affect the bid. Covers the unit of measure of the work, estimating the quantity of materials, and the relationship of the specifications.	
<b>ACC 225 Integrated Accounting Software</b>	<b>3 Credits</b>
Prerequisites: ACC 101 - Accounting Principles I, CIS 101 - Introduction to Microcomputers, or advisor approval. Integrated accounting software package(s) will be used to illustrate computerized accounting practices. The general ledger will be integrated with accounts receivable, accounts payable, and other accounting.	
<b>ACC 281-293 Special Topics in Accounting</b>	<b>1-5 Credits</b>
Prerequisites: None. Provides students with the opportunity to experience seminars, workshops, and other instructional activities on topics of interest that reinforce the concepts presented in their program area.	
<b>ACC 298 Field Study/Cooperative Education</b>	<b>3 Credits</b>
Prerequisites: Must be enrolled in an Associate Degree Program. Must have permission from a Program Supervisor. The student works at a job site that is specifically related to his/her career objectives. The course is a field project within the framework of actual work experience in accounting.	

**AFS 101 Fire Technology****3 Credits**

Prerequisites: None. Examines the history of firefighting, identifies the types of apparatus and fire protection systems, and analyzes the fire problem in general. Provides a basis for the chemical and hazardous properties of combustion and the related by-products.

**AFS 102 Fire Apparatus and Equipment****3 Credits**

Prerequisites: None. Examines in detail the types of apparatus in use today. Studies pumpers, aeriels, elevating platforms and special apparatus. Utilizes National Fire Protection Association standards in identifying the proper responses for a given situation. Includes study of apparatus placement on an emergency incident, types of pumps, tests, equipment, drafting, relay, nozzles, fittings and hose lays and maintenance on various types of apparatus.

**AFS 103 Firefighting Strategy and Tactics****3 Credits**

Prerequisites: None. Prepares the student to make responsible decisions concerning fireground strategies and tactics at the company level. Uses various priority scenarios, including preparing for incident command and commanding the initial response. Emphasizes company operations with basic command decisions.

**AFS 104 Building Construction Fire Service****3 Credits**

Prerequisites: None. Examines the design principles involved in the protection of a structure from fire involvement. Studies the signs, symptoms and indicators of partial or total building collapse during firefighting operations. Includes the study of legislative codes and laws concerning building design, building fire safety, classification of building construction and blueprint reading.

**AFS 105 Fire/Arson Investigation****3 Credits**

Prerequisites: None. Focuses on the responsibilities of the firefighter, the investigator and the department in fire scene investigations, fire cause and loss, collection and preservation of evidence, and determination of fire origin. Emphasizes the application and assistance of various scientific aids that assist in the investigation.

**AFS 108 Fire Prevention/Inspection****3 Credits**

Prerequisites: None. Examines the function of the fire inspector and the organization of the fire prevention unit. Emphasizes identifying codes and regulations utilized by the inspector, with particular use of the Indiana Fire Code. Includes the legal authority of fire prevention principles, application of the fire code and sound management principles as applied to a bureau.

**AFS 109 Fire Department Specifications****3 Credits**

Prerequisites: None. Surveys specifications of firefighting apparatus, equipment, protective clothing, facilities, and all other sources of materials necessary to a fire department. Study includes the writing of Standard Operating Guides (SOGs) and blueprint readings.

**AFS 201 Fire Protection Systems****3 Credits**

Prerequisites: None. Provides a general introduction to fire alarm monitoring devices and extinguishing systems. Develops a strong base for fire protection or commercial applications. Covers fire extinguishing agents, portable fire extinguishers, carbon dioxide systems, dry chemical systems, halogenated systems/foam systems, explosive suppression systems, thermal/smoke/flame detection systems and building monitoring systems. Covers standpipe and sprinkler systems.

**AFS 202 Fire Service Management****3 Credits**

Prerequisites: None. Studies the principles and functions of administrative and management personnel in the fire service. Topics discussed include departmental organizations, administrative and management procedures, personnel selection, line and staff functions, communications, the fire company unit, public relations and current problems in administration.

**AFS 203 Incident Command****3 Credits**

Prerequisites: None. Emphasizes leadership in the application of knowledge, skills and abilities pertaining to fire hazards and causes, firefighting strategy and tactics, fire technology, safety practices, and fire suppression.

**AFS 204 Fire Service Hydraulics****3 Credits**

Prerequisites: None. Studies compressible fluids including fluid properties, principles of fluid statics, flow system principles, pipe friction and head loss, flow measurements, pumps and other appliances and hydraulic devices. Relates applications to fire protection, water supply and foam systems.

<b>AFS 205 Aircraft Firefighting</b>	<b>3 Credits</b>
Prerequisites: None. Examines the hazards associated with aircraft firefighting. Includes lecture and practical use of airport firefighting equipment, extinguishing agents, strategy and tactics, rescue methods, and aircraft design and construction.	
<b>AFS 206 Shipboard Firefighting</b>	<b>3 Credits</b>
Prerequisites: None. Focuses on firefighting strategy and tactics for land-based fire department personnel and equipment. Includes a survey of equipment, hook-ups, procedures, incident command, use of foam, and support systems on ships.	
<b>AFS 207 Fire Safety Hazard Recognition</b>	<b>3 Credits</b>
Prerequisites: None. Provides intensive study of the fire problem. Surveys physical, chemical, and electrical hazards and their relationship to loss of property and life. Includes safe storage and handling of hazardous materials.	
<b>AFS 208 Industrial Fire Loss Prevention</b>	<b>3 Credits</b>
Prerequisites: None. Provides students with a comprehensive study of industrial fire loss prevention and control management programs. Includes procedures for fire risk and loss control, standards and specifications for equipment, laws, codes, regulations, organization of fire brigades and administrative control of industrial operation.	
<b>AFS 209 Fireground Management</b>	<b>3 Credits</b>
Prerequisites: None. Emphasizes the command and control of fire department major operations at an advanced level. Links operations and safety. Studies pre-incident preparation, size-up, incident command systems and incident management with large role-playing incident scenarios for students to solve.	
<b>AFS 210 Computers for the Fire Service</b>	<b>3 Credits</b>
Prerequisites: None. Focuses on the need for and uses of the computer in the fire service from computer-ordered dispatch to information retrieval of hazardous materials control and intervention. Includes the text-editing abilities of computer printing.	
<b>AMT 102 Introduction to Robotics</b>	<b>3 Credits</b>
Prerequisites: TEC 104 - Computer Fundamentals for Technology. Introduces students to robotics and automated systems and their operating characteristics. Covers robotics principles of operation and work envelopes. Teaches coordinate systems and how hydraulic, pneumatic and electromechanical systems function together as a system. Covers servo and non-servo controls, system capabilities and limitations and safety. Investigates robot tooling, including welders, grippers, magnetic pickups, vacuum pickups, compliance devices, adhesive applicators and paint sprayers.	
<b>AMT 103 Solid State Fundamentals</b>	<b>3 Credits</b>
Prerequisites: TEC 113 - Basic Electricity. Studies the fundamentals of solid-state active devices which are used in automated manufacturing equipment. Introduces students to the theory of solid-state active devices and provides experience in identification, applications and handling of the common types of devices.	
<b>AMT 201 - Manufacturing Systems Control (PLCs)</b>	<b>3 Credits</b>
Prerequisites: TEC 104 - Computer Fundamentals for Technology and TEC 113 - Basic Electricity or advisor approval. Introduces the field of industrial controls. Teaches principles of control systems and how they are applied to a production system to achieve automation. Systems included in the course are stepper motors, programmable logic controllers, microprocessors, computers and feedback systems. Emphasizes programmable logic controllers and the local area network.	
<b>AMT 202 Work Cell Design and Integration</b>	<b>3 Credits</b>
Prerequisites: AMT 102 - Introduction to Robotics, AMT 201 - Manufacturing Systems Control (PLCs). Studies principles pertaining to design and implementation of robots in industrial work cells. Emphasizes selection of the best work site and robot system, application of cell sensor, development of cycle times, economic analysis, safety considerations, proposal preparation, and human resources development.	
<b>AMT 203 Automation Electronics</b>	<b>3 Credits</b>
Prerequisites: TEC 113 - Basic Electricity, MAT 111 - Intermediate Algebra or MAT 131 - Algebra/Trigonometry I. Demonstrate the operation and application of electronic devices in the automation field. Includes linear integrated circuits, sensors and interfacing systems, actuators and drive controls and process control techniques.	

**AMT 204 Automation Management****3 Credits**

Prerequisites: advisor approval. Covers basic principles and applications for planning and controlling production operations and improvement programs. Includes system characteristics and solutions for production process and service operation problems; methods analysis; cost estimating; facilities planning, tooling and services acquisition and maintenance; production, project and program scheduling; materials and inventory management; safety and loss prevention; decision-making tools, and evaluation of alternatives.

**AMT 205 Automated Manufacturing Systems****3 Credits**

Prerequisites: AMT 201 - Manufacturing Systems Control (PLCs), AMT 203 - Automation Electronics. Provides instruction in selecting equipment, writing specifications, designing fixtures and interconnects, integrating systems, providing interfaces, and making the assigned systems operational to produce "marketable" products.

**AMT 206 Advanced Manufacturing Systems Control****3 Credits**

Prerequisites: AMT 201 - Manufacturing Systems Control (PLCs). Provides an in-depth study of programmable controllers. Emphasizes program language installation, maintenance and applications.

**AMV 100 Introduction to Transportation****3 Credits**

Prerequisites: None. Introduces students to the work environment of a transportation repair facility. Presents historical and future trends with emphasis in career/placement requirements. Safety, OSHA, EPA, and environmental standards are presented. Introduction to the eight areas of ASE technician certification and related tools are presented.

**AMV 101 Chassis and Suspension Principles****3 Credits**

Prerequisites: None. Describes various frame designs and suspension systems used in modern vehicles. Includes repair and replacement of steering linkages and chassis components, both front and rear.

**AMV 107 Engine Principles and Design****3 Credits**

Prerequisites: None. Examines engine dynamics, theory of engine operation and design characteristics of all engine assemblies and subassemblies. Emphasizes removal, tear down, visual inspection, precision measuring inspection, clean up of components and parts, and rebuilding engines according to industry standards.

**AMV 113 Electricity for Transportation****3 Credits**

Prerequisites: MAT 050 - Basic Algebra. Introduces fundamentals of electricity and electrical behavior as applied to modern transportation. Includes extensive use of digital multimeters and circuit troubleshooting. Presents an intensive study of the construction, function, and principles of operation of starting motors, charging systems, and their control systems with emphasis on diagnosis and bench repair.

**AMV 202 Computer Engine Controls****3 Credits**

Prerequisites: AST 106 - Electronic Ignition Systems. Examines computerized ignition, carburetor, fuel injection, and sensors for engine controls on late model passenger cars. Covers theory, diagnostic procedure and repair procedure of the CCC, MCU, EEC-IV, lean burn, and other spark control systems

**AMV 281-293 Special Topics in Automotive Technology****1-5 Credits**

Prerequisites: None. Provides students with the opportunity to experience seminars, workshops, and other instructional activities on topics of interest that reinforce the concepts presented in their program area

**ART 102 Introduction to Illustration****3 Credits**

Prerequisites: None. Explores the factors involved with developing illustrations and working with illustrators. Concepts, styles, techniques, design, and communication are discussed. Students can create finished illustrations using basic techniques or study and report on specific illustrators.

**ART 111 Drawing for Visualization****3 Credits**

Prerequisites: None. Introduces students to the tools and methods of drawing. Presents drawing as a catalyst to seeing and a way of recording ideas. Gives students the necessary drawing preparation for the study of graphic design

<b>ART 112 Electronic Layout</b>	<b>3 Credits</b>
Prerequisites: None. Deals with advanced issues of designing for communication. Develops creative problem solving skills. Uses the computer as a tool for executing layouts for client approval. Produces practical samples for student portfolios.	
<b>ART 114 Graphic Design</b>	<b>3 Credits</b>
Prerequisites: VIS 101 - Fundamentals of Design and ART 115 - Typography. Introduces design for communication. Teaches the steps in design development and the difference between message and concept. Produces samples for student portfolios.	
<b>ART 115 Typography</b>	<b>3 Credits</b>
Prerequisites: None. Addresses the issues pertinent to the proper and creative use of type and the enhancement of communication. Covers the history of type, typographic terminology, design, copyfitting attention to aesthetics, common sense, and how we read.	
<b>ART 116 Electronic Illustration</b>	<b>3 Credits</b>
Prerequisites: None. Provides instruction in illustration techniques using computer software designed for creating illustrations, technical drawings, logos, packaging, maps, charts, and graphs. Emphasis is on preparing effective, creative illustrations for various media applications in an efficient, productive manner.	
<b>ART 117 Production</b>	<b>3 Credits</b>
Prerequisites: advisor approval. Focuses on the hand assembly of art and type for the printer's camera. Covers production terminology, printing process, hand preparation of illustrative materials for reproduction and preparation of mechanical art using hand skills. Produces samples for student portfolios.	
<b>ART 202 Special Projects I</b>	<b>3 Credits</b>
Prerequisites: None. Accommodates student interest in specific areas or in areas where there is a need to strengthen skills. Requires performance and completed work to be portfolio quality and reflect applicability to the main areas of the program	
<b>ART 203 Independent Study I</b>	<b>3 Credits</b>
Prerequisites: None. Provides students with opportunities to design projects for specific areas of interest. Requires the project plan to be approved by the instructor. Restricts work to student program area and requires it to be portfolio quality.	
<b>ART 205 Special Projects II</b>	<b>3 Credits</b>
Prerequisites: None. Provides specific experience in selected areas. Recommends completion of two projects. Requires instructor approval for additional projects	
<b>ART 206 Independent Study II</b>	<b>3 Credits</b>
Prerequisites: None. Builds skills in specific areas of a visual communications program or a related program such as marketing, advertising, and externship or supervision. Requires instructor approval for program projects. Requires program chairperson's approval to elect non-program coursework.	
<b>ART 209 Airbrush Rendering</b>	<b>3 Credits</b>
Prerequisites: None. Presents concepts and practices in the use of airbrush to render visuals in black and white and in color.	
<b>ART 210 Illustration Techniques I</b>	<b>3 Credits</b>
Prerequisites: None. Develops dexterity in the application of transparent and opaque media.	
<b>ART 211 Creative Illustration Concepts</b>	<b>3 Credits</b>
Prerequisites: None. Introduces montage illustration through experience in actual problems.	
<b>ART 217 Graphic Design II</b>	<b>3 Credits</b>
Prerequisites: ART 112 - Electronic Layout. Provides experience with advanced design projects which communicate a common theme through several different media. Provides opportunity for students to work in a team environment.	



**ART 218 Digital Production****3 Credits**

Prerequisites: None. Addresses issues of preparing camera-ready art electronically. Topics covered are preparing computer files for service bureau output, scanning and printing resolution, color matching and color models, trapping, and computer system operations and troubleshooting.

**AST 102 Two-/Four-Wheel Alignment****3 Credits**

Prerequisites: MAT 050 - Basic Algebra. Covers the principles of two- and four-wheel alignment and wheel balance. Emphasizes practical work experience in the lab covering all the alignment angles.

**AST 103 Automotive Electronics****3 Credits**

Prerequisites: None. Introduction to electrical theory and automotive circuits and components. Electron theory, electrical circuits, terms, wiring diagrams, and batteries are emphasized. Also, introduces electrical circuit and component test equipment.

**AST 104 Start and Charge Systems****3 Credits**

Prerequisites: AMV 113 - Electricity for Transportation. Studies construction, function and principles of operation of starting motors, charging systems, and their control systems with emphasis on diagnosis and bench repair.

**AST 105 Fuel Systems****3 Credits**

Prerequisites: AMV 113 - Electricity for Transportation. Studies automotive fuel systems: single, double, and four barrel carburetors, fuel injection systems, and emission controls as they apply to the fuel system. Focuses on shop procedures for troubleshooting, servicing, replacing, or overhauling fuel system and emission control components.

**AST 106 Electronic Ignition Systems****3 Credits**

Prerequisites: AMV 113 - Electricity for Transportation. Introduces basic principles of electronic ignition systems. Includes functions and testing of conventional breaker point ignitions.

**AST 108 Electrical Accessory Systems****3 Credits**

Prerequisites: AMV 113 - Electricity for Transportation. Presents the functions, construction, and principles of operation and troubleshooting techniques for the accessories of automotive vehicles. Includes electrical accessories such as windshield wipers and washers, power seats, power windows, adjustable steering wheels, power tailgates, and power headlight doors.

**AST 109 Small Gas Engine Maintenance****3 Credits**

Prerequisites: None. Presents theory, service, and repair of small gas engines and their components; emphasis is on safety, measurements, lubricants, fuels, and engine design.

**AST 110 Small Gas Engine Overhaul****3 Credits**

Prerequisites: None. Covers disassembly, inspection, measuring, cleaning, machine repair, and proper assembly techniques applicable to small gas engine overhaul. Includes overhaul of carburetor and ignition systems and maintenance procedures on rebuilt two-cycle and four-cycle engines.

**AST 111 Basic Auto Care****2 Credits**

Prerequisites: None. Provides basic instruction in auto maintenance for the automobile owner. Covers routine maintenance, economical operation, elimination of objectionable noises, care of interior and exterior appearance, warranty regulations, and emergency road procedures.

**AST 112 OSHA/Automotive Service****3 Credits**

Prerequisites: None. Studies safety practices needed for routine automotive shop work. Provides opportunity for students to earn Red Cross certification in first aid. Stresses fire hazard, chemical handling, and eye safety.

**AST 113 Automotive Diesel and Engine Theory****3 Credits**

Prerequisites: None. Covers operation of the diesel engine and differences between a diesel and gas engine. Includes instruction on shop equipment, fuels, oils, seals, bearings, lubrication, and cooling systems.

**AST 114 Service Organization and Parts** 3 Credits

Prerequisites: None. Presents facility and personnel requirements for efficiently-run parts and service departments. Emphasizes principles, practices, and procedures necessary to effectively operate the departments. Includes manufacturer catalogs and component numbering systems, methods of scheduling time, and techniques for obtaining maximum work efficiency from technicians and specialists.

**AST 201 Heating and Air Conditioning Principles** 3 Credits

Prerequisites: None. Provides an in-depth study of automotive air conditioning and heating. Emphasizes the operation and theory of air conditioning and its components. Includes a study of vacuum and electrical control circuits.

**AST 203 Engine Rebuild** 3 Credits

Prerequisites: AMV 107 - Engine Principles and Design. Covers precision machines, tools, and equipment needed for rebuilding today's modern engine. Includes repair, proper assembly, and installation techniques applicable to the modern engine.

**AST 204 Automatic Transmission/Transaxle** 3 Credits

Prerequisites: None. Deals with construction and functions and principles of operation. Emphasizes practical work experience in the lab where students will overhaul automatic transmissions and transaxle assemblies.

**AST 205 Manual Transmission/Transaxle** 3 Credits

Prerequisites: None. Presents theory and overhaul procedures related to the manual transmission/transaxle, including clutches and transfer cases and diagnosis and overhaul of the manual power train.

**AST 206 Heating and Air Conditioning Service and Repair** 3 Credits

Prerequisites: AST 201 - Heating and Air Conditioning Principles. Covers diagnosis, service, and repair procedures of the heating/air conditioning system. Includes replacement and overhaul procedures for components related to heating/air conditioning systems.

**AST 207 Engine Performance** 3 Credits

Prerequisites: AMV 202 - Computer Engine Controls and AST 105 - Fuel Systems. Includes advanced instruction in the theory, diagnosis, and repair of computer-controlled ignition systems and fuel systems on late-model vehicles using state-of-the-art diagnostic equipment. Emphasizes recommended manufacturer methods for servicing the computer-controlled ignition system.

**AST 208 Differentials/Drivelines** 3 Credits

Prerequisites: None. Studies differential and driveline theory and overhaul. Includes overhaul and service procedures applicable to gear sets, bearings, and seals. Includes theory and overhaul procedures related to the driveshaft and axle assemblies for front and rear wheel drive vehicles.

**AST 209 Automotive Braking Systems** 3 Credits

Prerequisites: None. Covers theory, service, and repair of automotive braking systems and their components. Emphasizes hydraulic theory and the repair and service of booster units, master cylinder, wheel cylinder, caliper rebuilds, and drum and rotor service.

**AST 210 Modified Automotive Engines** 3 Credits

Prerequisites: AST 203 - Engine Rebuild. Provides instruction for advanced transportation students and employed technicians to familiarize them with higher performance engines, durability, and economy. Stresses individuality in constructing performance engines.

**AST 212 Comprehensive Diagnosis I** 3 Credits

Prerequisites: AMV 100 - Introduction to Transportation, AMV 101 - Chassis and Suspension Principles, AST 201 - Heating and Air Conditioning Principles, AST 207 - Engine Performance, and AST 220 - Transaxle and Driveline Service. Provides students with the opportunity to diagnose and repair the complete automotive system according to manufacturers' recommendations and specifications. Requires students to complete repair orders assigned by the instructor.

**AST 213 Comprehensive Diagnosis II** 3 Credits

Prerequisites: AST 212 - Comprehensive Diagnosis I. Provides opportunity for students to complete work based on flat rate hours. Includes recordkeeping, parts procurement, and methods for determining unpaid labor lost on flat rate.



**AST 215 ASE Certification Review****3 Credits**

Prerequisites: advisor approval. Prepares professional automotive technicians for the National Institute for Automotive Service Excellence certification tests. Reviews all eight areas of testing and provides sample certification tests. Lectures will stress theory of operation and diagnostic logic. Labs will stress professional repair and testing techniques.

**AST 220 Transaxle and Driveline Service****3 Credits**

Prerequisites: None. Covers complete diagnostic procedures for automatic transaxles, computer shift transaxles, drive axles, and shafts. Emphasizes on-car repair and removal procedures of transaxles and driveline components.

**BKR 101 Yeast Breads I****3 Credits**

Prerequisites: HOS 105 - Introduction to Baking. Prepares students to produce a variety of yeast raised breads and rolls using both straight dough and sponge dough methods. Emphasizes proper mixing, fermentation, make-up proofing, and baking.

**BKR 102 Yeast Breads II****3 Credits**

Prerequisites: HOS 105 - Introduction to Baking. Prepares students to produce a variety of pastries. Emphasizes proper proofing, baking, and finishing. Focuses on sanitation, hygienic work habits, and conformance with health regulations.

**BKR 103 Merchandising****3 Credits**

Prerequisites: BKR 102 - Yeast Breads II. Requires students to produce yeast raised and plasticized/sweet dough products for limited retail sale for a 12-week period. Studies merchandising and marketing, planning, production, controlling scrap, cash recaps, and all pertinent phases of a retail bake shop operation.

**BKR 201 Cakes, Icings, and Fillings****3 Credits**

Prerequisites: HOS 105 - Introduction to Baking. Requires students to produce and finish a variety of cakes. Emphasizes application techniques, color coordination, and the flavor and texture of fillings. Practices the techniques of basic cake decorating. Emphasizes sanitation, hygienic work habits, and conformance with health regulations.

**BKR 202 Advanced Decorating/Candies****3 Credits**

Prerequisites: BKR 201 - Cakes, Icings, and Fillings. Presents the six different classical styles of cake decorating, the production of gum paste objects which accompany the styles, the use of royal icings and investigates the similarities and differences between the six styles. Students will be required to produce examples of each style and technique, to include two practical examinations.

**BNK 215 Principles of Banking****3 Credits**

Prerequisites: None. Discussion ranges from fundamentals of negotiable instruments to contemporary issues and developments within the industry.

**BNK 216 Analyzing Financial Statements****3 Credits**

Prerequisites: None. Provides a practical introduction to financial analysis from the viewpoint of the commercial loan officer and develops skills needed to effectively assess a borrower's ability to repay loans.

**BNK 217 Law and Banking: Applications and Principles****3 Credits**

Prerequisites: None. Introduces laws pertaining to secured transactions, letters of credit, and the bank collection process. Provides a banker's guide to law and legal issues with special emphasis on the Uniform Commercial Code.

**BNK 218 Consumer Lending****3 Credits**

Prerequisites: None. Presents an insider's view of consumer lending, offering essential information about the maze of regulations that govern credit practices, and reviews loan processing, cross-selling, and collections.

**BNK 219 Bank Management****3 Credits**

Prerequisites: None. Provides a complete introduction to the handling of day-to-day bank activities and incorporates case studies to help acquire bank management skills.

**BNK 220 Trust Operations****3 Credits**

Prerequisites: None. Provides basic trust terminology and discusses the concepts and ideas that comprise the various trust functions. Translates them into workable procedures.

**BUS 101 Introduction to Business****3 Credits**

Prerequisites: None. Examines the U.S. business system in relation to the nation's economy. Studies business ownership, organization principles and problems, management, and administration and development practices of American business enterprises.

**BUS 102 Business Law****3 Credits**

Prerequisites: None. Describes the judicial system and the nature and sources of law affecting business. Studies contracts, sales and negotiable instruments with emphasis on Uniform Commercial Code applications. Includes appropriate remedies for breach of contract and tort liabilities. Examines business structures and agencies.

**BUS 103 Office Administration****3 Credits**

Prerequisites: None. Covers broad areas of administrative office services and management, including office organization, site location, layout and environment, records management, systems controls, and office communication services and devices.

**BUS 104 Investment****3 Credits**

Prerequisites: None. Presents the basis of investing, with attention to the various ways in which investment vehicles operate.

**BUS 105 Principles of Management****3 Credits**

Prerequisites: None. Describes the functions of managers, including the management of activities and personnel. Focuses on application of guidance principles in management.

**BUS 107 Transportation Law****3 Credits**

Prerequisites: OPM 216 - Traffic and Transportation Management I. Reviews judicial systems and regulatory agencies, regulatory acts, Motor Carrier Act of 1980, Staggers Rail Act of 1980, obligations, rights and liabilities, regulation of rates, and rate-making agreements.

**BUS 108 Personal Finance****3 Credits**

Prerequisites: None. Emphasizes management of individual financial resources for growth and maintenance of personal wealth. Covers home buying and mortgage financing, installment financing, life and health insurance, securities, commodities, and other investment opportunities.

**BUS 110 Business Statistics****3 Credits**

Prerequisites: MAT 111 - Intermediate Algebra. Introduces students to the theory and applications of statistical inferential techniques as applied to business problems. The student is exposed to a software package to illustrate the extent that the computer has facilitated quantitative research.

**BUS 202 Human Resource Management****3 Credits**

Prerequisites: BUS 105 - Principles of Management. Focuses on the activities of human resource management, with emphasis on employer-employee relations, job analysis and evaluation, salary administration, work measurement and standards, performance appraisal, and legal compliance.

**BUS 203 Business Development****3 Credits**

Prerequisites: 45 credit hours and/or departmental approval. Explores business operations for the self-employed or as a manager of a small business enterprise. Covers the role of entrepreneur and manager; selecting the appropriate business organization; developing plans and strategies for small, medium, and growing firms; securing financing for start-up and growing operations; exploring growth opportunities, and successfully managing human and material resources.

**BUS 204 Case Problems in Management****3 Credits**

Prerequisites: 45 program credit hours and departmental approval. Applies business concepts and principles to specific case studies or problems.

<b>BUS 205 Risk Management</b>	<b>3 Credits</b>
Prerequisites: None. Examines risk faced by business firms and considers ways of handling them. Covers property, liability and personal losses, with attention to insurance contracts and their uses. Studies individual life, health and pension insurance, public policy, government regulations, and social insurance programs.	
<b>BUS 207 Introduction to International Business</b>	<b>3 Credits</b>
Prerequisites: BUS 101 - Introduction to Business and/or departmental approval. Provides an overview of the international environment within which business operates today. Demonstrate the global relationships between business activities and how events in one part of the world can influence business decisions and activities in other parts of the world.	
<b>BUS 208 Organizational Behavior</b>	<b>3 Credits</b>
Prerequisites: BUS 105 - Principles of Management. Studies human behavior in organizations at the individual and group level, including the effect of organizational structure on behavior. Focuses on using organizational behavior concepts for developing and improving interpersonal skills.	
<b>BUS 210 Managerial Finance</b>	<b>3 Credits</b>
Prerequisites: MAT 112 - Functional Mathematics or MAT 111 - Intermediate Algebra, and ACC 101 - Accounting Principles I. Improves decision-making skills related to the financial resources of a firm. Includes techniques of financial analysis, time value of money, capital budgeting, and risk.	
<b>BUS 240 Introduction to Computer-Integrated Manufacturing</b>	<b>3 Credits</b>
Prerequisites: advisor approval. Includes the study of all major components of computer-integrated manufacturing (business, engineering and shop floor) as an integrated whole. Covers the planning of a project which will be formally documented and presented by students and implemented in BUS 241 - Computer-Integrated Manufacturing Project.	
<b>BUS 241 Computer-Integrated Manufacturing Project</b>	<b>3 Credits</b>
Prerequisites: advisor approval. Covers the major components of computer-integrated manufacturing (business, engineering and shop floor) as an integrated whole. Covers advanced CIM applications and includes the implementation of a project in a realistic CIM environment.	
<b>BUS 280 Co-op/Internship</b>	<b>1-6 Credits</b>
Prerequisites: Departmental approval. Gives students the opportunity to work at a job site that is specifically related to their career objectives. Provides on-the-job experience while earning credit toward an associate degree.	
<b>BUS 281-293 Special Topics in Business Administration</b>	<b>1-5 Credits</b>
Prerequisites: None. Provides students with the opportunity to experience seminars, workshops, and other instructional activities on topics of interest that reinforce the concepts presented in their program area.	
<b>CHD 121 Introduction to Early Childhood Profession</b>	<b>3 Credits</b>
Prerequisites: None. Introduces the philosophy of early childhood education. Includes theories of discipline, parent involvement, self-concept, and an overview of various early childhood settings. Includes lectures, field trips, and observations.	
<b>CHD 122 Child Growth and Development</b>	<b>3 Credits</b>
Prerequisites: None. Studies the physical, social, emotional, and cognitive development of children from conception to age eight, as well as their quality care and education. Includes lectures and observations.	
<b>CHD 123 Health, Safety, and Nutrition</b>	<b>3 Credits</b>
Prerequisites: None. Analyzes basic safety, health, and nutrition needs. Emphasizes applications related to early childhood programs.	
<b>CHD 124 Developmental and Cultural Awareness</b>	<b>3 Credits</b>
Prerequisites: None. Provides a basic understanding of the anti-bias/multi-cultural emphasis in the field of early childhood. Analyzes developmentally appropriate practices, theory, and implementation for various early childhood settings. Includes lectures, field trips, review of current literature, and observations.	

- CHD 125 Curriculum in the Creative Arts** **3 Credits**  
 Prerequisites: None. Examines materials, methods, and teaching of creative arts to young children. Offers appropriate music, movement, art, and drama experiences for use in early childhood settings. Reviews theories of development of the young child.
- CHD 128 Child Development Practicum I** **2 Credits**  
 Prerequisites: CHD 121 - Introduction to Early Childhood Profession and CHD 122 - Child Growth and Development.  
 Provides opportunity for practical experience through observation and supervised participation in childcare settings. Requires successful completion of the practicum to advance to Practicum II.
- CHD 129 Child Development Practicum II** **2 Credits**  
 Prerequisites: CHD 121 - Introduction to Early Childhood Profession and CHD 122 - Child Growth and Development.  
 Provides opportunity for practical experience through observation and supervised participation in childcare settings. Requires successful completion of the practicum to advance to Practicum III.
- CHD 130 Child Development Practicum I and II** **4 Credits**  
 Prerequisites: CHD 121 - Introduction to Early Childhood Profession and CHD 122 - Child Growth and Development.  
 Provides opportunity for practical experience through observation and supervised participation in childcare settings. Requires successful completion of the practicum to advance to Practicum III.
- CHD 131 Seminar in Guidance Techniques** **2 Credits**  
 Prerequisites: CHD 121 - Introduction to Early Childhood Profession and CHD 122 - Child Growth and Development.  
 positive guidance techniques and skills that are effective with young children. Provides students with the opportunity to observe children and attempt to understand their needs.
- CHD 142 Beginnings in Child Development** **3 Credits**  
 Prerequisites: None. Examines basic principles of child development, developmentally appropriate practice (DAP), importance of family, licensing, and elements of quality care of young children. Entry-level course for early care and education teachers.
- CHD 143 Curriculum in the Early Childhood Classroom** **3 Credits**  
 Prerequisites: None. Entry-level course for Early Care and Education teachers. Examines developmentally appropriate environments and activities in various early care settings including all children.
- CHD 202 Issues and Resources** **3 Credits**  
 Prerequisites: CHD 121 - Introduction to Early Childhood Profession, CHD 122 - Child Growth and Development, or with permission of advisor. Covers current early childhood issues, ethical and legal responsibilities, and working relationships with families and community resources. Analyzes the caregiver's role as a member of a multidisciplinary team.
- CHD 206 Early Childhood Administration** **3 Credits**  
 Prerequisites: CHD 121 - Introduction to Early Childhood Profession, CHD 122 - Child Growth and Development, or with permission of advisor. Introduces principles of managing a childcare program. Emphasizes the manager's role including personnel and program administration and fiscal management. Explores client-community relations.
- CHD 209 Families in Transition** **3 Credits**  
 Prerequisites: None. Examines the stages of the family life cycle and interpersonal relationships among family members.
- CHD 211 School Age Programming** **3 Credits**  
 Prerequisites: None. Examines materials, methods, and teaching styles for creative experiences for school age children. Offers appropriate experiences in music, movement, art, and drama for use in school age childcare settings. Reviews theories of adolescent growth and development.
- CHD 212 Adolescent Child Growth and Development** **3 Credits**  
 Prerequisites: None. Studies in a lecture/laboratory setting the physical, social, emotional, and cognitive development of children 8-15 years old.

**CHD 213 Infant/Toddler Care Programming****3 Credits**

Prerequisites: None. Studies the physical, social, emotional, and cognitive development of children 0-36 months old in a lecture/laboratory setting.

**CHD 216 The Exceptional Child****3 Credits**

Prerequisites: None. Provides an introduction to caring for the exceptional child. Includes theories and practices for producing optimal developmental growth. Develops teaching techniques. Explores public policy, mainstreaming, early intervention, and individual education plans. Explores the types of exceptional children and how to help them.

**CHD 217 Skills for Parenting****3 Credits**

Prerequisites: None. Focuses on skill development to increase parental effectiveness in understanding young children, building their self-esteem, communicating with them, setting appropriate boundaries, and nurturing children's emotional and social development.

**CHD 218 Introduction to In-Home Care****3 Credits**

Prerequisites: None. Reviews childcare offered in a home-like setting. Includes providing safe, healthy learning environments in the home setting, parent-provider relationships, and recommendations for developing a professional support system.

**CHD 221 Emerging Literacy in Young Children****3 Credits**

Prerequisites: None. Provides understanding of the development and acquisition of language. Explores and evaluates literature for young children. Introduces audio-visual material, methods, techniques, and various types of equipment which are utilized in early childhood programs.

**CHD 225 Cognitive Curriculum****3 Credits**

Prerequisites: None. Reviews cognitive theories to develop appropriate problem solving, math, science, and social studies skills in early childhood settings. Reviews multi-cultural education.

**CHD 230 Child Development Practicum III****4 Credits**

Prerequisites: CHD 128 - Child Development Practicum I, CHD 129 - Child Development Practicum II, and CHD 131 - Seminar in Guidance Techniques. Provides opportunity for practical experience through observation and supervised participation in childcare settings.

**CHD 231 Seminar II - Issues in Early Childhood Education****2 Credits**

Prerequisites: CHD 128 - Child Development Practicum I, CHD 129 - Child Development Practicum II, and CHD 131 - Seminar in Guidance Techniques. Companion course to CHD 230. Focuses on the integration of knowledge and practices in the field of early childhood and explores issues in early childhood.

**CHD 240 Child Development Associate Preparation****3 Credits**

Prerequisites: CHD 121 - Introduction to Early Childhood Profession and CHD 125 - Curriculum in the Creative Arts. Meets requirements of the Council for Early Childhood Professional Recognition for academic preparation for the Child Development Associate credential. Provides students with the theoretical knowledge to support competent performance in a childcare setting. Provides review of CDA competencies.

**CHD 241 Supervised Practicum Experience****3 Credits**

Prerequisites: CHD 121 - Introduction to Early Childhood Profession and CHD 125 - Curriculum in the Creative Arts. Provides opportunity for practical experience through observation and supervised participation in childcare settings. Successful completion of the practicum is required to advance to Practicum II or Practicum III.

**CHD 242 Curriculum Planning for Early Childhood Administrators****3 Credits**

Prerequisites: Program chair permission. Presents an overview of cognitive and creative curriculum from a developmentally appropriate perspective. Emphasizes planning and evaluating curriculum to meet comprehensive needs of the young child.

**CHD 281-293 Special Topics in Child Development****1-5 Credits**

Prerequisites: None. Provides students with the opportunity to experience seminars, workshops, and other instructional activities on topics of interest that reinforce the concepts presented in their program area.



**CIS 101 Introduction to Microcomputers** 3 Credits

Prerequisites: ENG 025 - Introduction to College Writing II and ENG 032 - Reading Strategies for College II or demonstrated competencies, or advisor approval. Introduces the physical components and operations of microcomputers. Focuses on computer literacy and provides hands-on training in three areas of microcomputer application software: word processing, electronic spreadsheets and database management.

**CIS 102 Information Systems Fundamentals** 3 Credits

Prerequisites: ENG 025 - Introduction to College Writing II and ENG 032 - Reading Strategies for College II, or demonstrated competencies. Introduces data processing and programming with emphasis on hands-on computer experience. Examines the role of data processing in an organization, including data processing applications, computer hardware and software, internal data representation, stored program concepts, systems and programming design, flowcharting, and data communications. Reviews the history of computers, related computer careers, the social impact of computers, and computer security.

**CIS 104 Introduction to COBOL Programming** 3 Credits

Prerequisites: CIS 113 - Logic, Design, and Programming. Provides an introduction to COBOL (Common Business Oriented Language) with major emphasis on developing structured programming skills. Develops proficiency in applying the programming development cycle to elementary business problems.

**CIS 105 Operating Systems** 3 Credits

Prerequisites: CIS 101 - Introduction to Microcomputers. Studies computer operating systems, purposes, structure, and various functions. Provides general understanding of how comprehensive sets of language translators and service programs, operating under supervisory coordination of an integrated control program, form the total operating systems of a computer.

**CIS 106 Microcomputer Operating System** 3 Credits

Prerequisites: CIS 101 - Introduction to Microcomputers and/or CIS 102 - Information Systems Fundamentals. Introduces the organization, structure and functions of an operating system for a microcomputer. Presents the student with operating system concepts such as commands, error messages, interrupts, function calls, device drivers, structure, files, and organization. Incorporates concepts into practical applications.

**CIS 107 Microcomputer Programming** 3 Credits

Prerequisites: CIS 102 - Information Systems Fundamentals and CIS 113 - Logic, Design, and Programming. Introduces a structured microcomputer language. Concepts in input/output commands, arithmetic expressions, conditional control, iteration techniques, and subroutines will be stressed. Concepts will be incorporated into the application of solving business problems.

**CIS 108 Practical Computer Operations** 3 Credits

Prerequisites: None. Demonstrate workstation and minicomputer operations including peripheral devices. Provides information on data processing area, including job responsibilities, standards and run manuals, message control functions, documentation, and back-up procedures.

**CIS 109 UNIX Operating Systems** 3 Credits

Prerequisites: None. Studies the UNIX V Operating System and its use as a time-sharing operating system. Includes basic UNIX commands, use of the visual editor, the UNIX directory structure and file management with SHELL commands. Offers opportunities to apply skills and knowledge in a laboratory environment.

**CIS 110 Basic Programming Language** 3 Credits

Prerequisites: None. Introduces concepts of program design and programming using the BASIC programming language, the primary language for use with microcomputers. Includes overview of basic arithmetic operations, accumulating and printing totals, comparing, array processing, and interactive programming. Offers students an opportunity to apply skills in a laboratory environment.

**CIS 113 Logic, Design and Programming** 3 Credits

Prerequisites: CIS 101 - Introduction to Microcomputers or CIS 102 - Information Systems Fundamentals. Introduces the structured techniques necessary for efficient solution of business-related computer programming logic problems and coding solutions into a high-level language. Includes program flowcharting, pseudocoding, and hierarchy charts as a means of solving these problems. Covers creating file layouts, print charts, program narratives, user documentation, and system flowcharts for business problems. Reviews algorithm development, flowcharting, input/output techniques, looping, modules, selection structures, file handling, and control breaks. Offers students an opportunity to apply skills in a laboratory environment.



<b>CIS 114 Principles of Management Information Systems</b>	<b>3 Credits</b>
<p><b>Prerequisites:</b> CIS 101 - Introduction to Microcomputers, CIS 102 - Information Systems Fundamentals, and BUS 101 - Introduction to Business. Examines the functions and operations required to manage information for business decisions. Focuses on the use of various information technologies and tools that support transaction processing, decision-making, and strategic planning. The diverse information needs of different organizations within a business will be used as examples of practical application of MIS technology.</p>	
<b>CIS 116 Introduction to Java Programming</b>	<b>3 Credits</b>
<p><b>Prerequisites:</b> None, but prefer CIS 113 - Logic, Design, and Programming, a Windows-based class and Internet experience. This course provides a basic understanding of the fundamental concepts involved when using a member of a Java programming development language. The emphasis is on logical program design using a modular approach involving task oriented program functions. Java allows the design of an Internet user interface. The application is built by selecting forms and controls, assigning properties, and writing code.</p>	
<b>CIS 120 Programming I</b>	<b>3 Credits</b>
<p><b>Prerequisites:</b> CIS 113 - Logic, Design, and Programming or advisor approval. Provides an introduction to business programming with the major emphasis on developing structured programming skills. Students will develop proficiency in applying the programming development cycle to elementary business problems.</p>	
<b>CIS 201 Database Design and Management</b>	<b>3 Credits</b>
<p><b>Prerequisites:</b> CIS 101 - Introduction to Microcomputers and CIS 102 - Information Systems Fundamentals. Introduces program applications in a database environment and includes discussion of data structures; indexed and direct file organizations; data models, including hierarchical, network and relational; storage devices, data administration and analysis; design and implementation. Allows students to use database software in creating, modifying, retrieving and reporting from databases. Develops business application using a database language.</p>	
<b>CIS 202 Data Communications</b>	<b>3 Credits</b>
<p><b>Prerequisites:</b> CIS 102 - Information Systems Fundamentals. Introduces concepts of data communications for computer programming students to build a foundation of knowledge upon which to add new technologies.</p>	
<b>CIS 203 Systems Analysis and Design</b>	<b>3 Credits</b>
<p><b>Prerequisites:</b> CIS 101 - Introduction to Microcomputers and minimum of 12 CIS credits successfully completed. Provides instruction for creating or modifying a system by gathering details, analyzing data, designing systems to provide solutions, and implementing and maintaining the systems.</p>	
<b>CIS 204 Advanced COBOL Programming</b>	<b>3 Credits</b>
<p><b>Prerequisites:</b> CIS 104 - Introduction to COBOL Programming. Continues topics introduced in Introduction to COBOL with more logically complex business problems. Develops a higher level of COBOL proficiency, as well as greater familiarity with debugging techniques. Uses the structured approach through class instruction and laboratory experience.</p>	
<b>CIS 205 Database Design</b>	<b>3 Credits</b>
<p><b>Prerequisites:</b> None. Introduces program applications in a database environment with emphasis on loading, modifying and querying the database by means of a host language (COBOL). Discusses data structures, indexed and direct file organizations, models of data, including hierarchical, network and relational, storage devices, data administration, and analysis and design and implementation.</p>	
<b>CIS 206 Project Development with High-Level Tools</b>	<b>3 Credits</b>
<p><b>Prerequisites:</b> CIS 203 - Systems Analysis and Design. Analyzes established and evolving methodologies for the development of business-oriented computer information systems. Develops competencies in techniques that apply modern software tools to generate applications directly, without requiring detailed and highly technical program writing efforts.</p>	
<b>CIS 207 Microcomputer Database Management Systems</b>	<b>3 Credits</b>
<p><b>Prerequisites:</b> CIS 101 - Introduction to Microcomputers. Presents an overview of relational, hierarchical and network database models with emphasis on microcomputer relational database management systems (DBMS). Provides practical experience in using database software to create, modify, retrieve and report. Develops business applications using the database language.</p>	

**CIS 209 Computer Business Applications****3 Credits**

Prerequisites: CIS 207 - Microcomputer Database Management Systems, and COM 101 - Fundamentals of Public Speaking, or COM 102 - Introduction to Interpersonal Communication. Requires students to apply business, microcomputer, and communication skills within business applications. Emphasizes application of several forms of computerized information processing including data processing, word processing, spreadsheets, graphics, and communications. Analyzes the effects of automation on the office worker, management, and the work environment and requires written and oral presentations.

**CIS 210 COBOL III****3 Credits**

Prerequisites: CIS 204 - Advanced COBOL Programming. Emphasizes file handling techniques on tape and direct access devices and the use of libraries via the COBOL, CALL, and COPY verbs. Introduces variant forms of the structured approach and unstructured concepts such as the GO TO verb. Helps students develop good programming practices and an entry-level COBOL competency.

**CIS 211 RPG Programming Fundamentals****3 Credits**

Prerequisites: CIS 102 - Information Processing Fundamentals and CIS 113 - Logic, Design, and Programming. Provides a general introduction to the RPG programming language with emphasis on hands-on programming experience. Presents the most important features of the RPG language from input/output processing to applications requiring handling. Introduces language concepts in class lecture. Includes programming lab assignments.

**CIS 212 "C"/"C++" Programming****3 Credits**

Prerequisites: CIS 113 - Logic, Design, and Programming or advisor approval. Provides a basic understanding of the fundamental concepts involved when using a low development language. Emphasizes one logical program design using a modular approach involving task-oriented program functions. Discusses the role of data types, storage classes, and addressable memory locations.

**CIS 213 Assembler Language Program****3 Credits**

Prerequisites: CIS 102 - Information Processing Fundamentals and CIS 113 - Logic, Design, and Programming. Gives students a basic understanding of the assembler process using IBM mainframe computers. Stresses the importance of byte-wise manipulation of data fields when using low-level languages. Emphasizes the actual workings of a computer during the execution of a computer program. Discusses the role of data types, EBCDIC format of data storage, and addressable memory locations.

**CIS 214 Pascal Programming****3 Credits**

Prerequisites: None. Provides a basic understanding of the structured programming process necessary for successful Pascal programming. Emphasizes top-down program design and modularity, using Pascal procedures, functions, and independent subprograms. Discusses simple and advanced data types and program control aids, algorithm development, and program debugging. Provides students with a fundamental understanding of good programming technique and a basic knowledge of Pascal syntax and structure.

**CIS 215 Field Study****4 Credits**

Prerequisites: None. Provides opportunity for a field project or research case study within the computer technology field. Includes collection and analysis of data and/or actual work experience in business or industry.

**CIS 216 Advanced RPG Programming****3 Credits**

Prerequisites: CIS 211 - RPG Programming Fundamentals. Offers advanced study in the use of the RPG compiler language in solving business problems. Focuses on file processing methods and a working knowledge of advanced features and techniques through laboratory experience.

**CIS 217 Programming II****3 Credits**

Prerequisites: CIS 113 - Logic, Design, and Programming or advisor approval. Provides a basic understanding of the fundamental concepts involved when using a development language. The emphasis is on program design using a modular approach involving risk oriented program functions. The role of data types, storage classes, and addressable memory locations is thoroughly discussed.

**CIS 220 Shell Command Language****3 Credits**

Prerequisites: None. Teaches students how to write, test and debug shell procedures on a computer utilizing a UNIX operating system. Presents the shell and how it works, shell processes, variables, keyword and positional parameters, control constructs, special substitutions, pipelines, debugging aids, error/interrupt processing, and shell command line. Offers students the opportunity to apply skills in a laboratory environment.

**CIS 221 Advanced "C"/"C++" Programming** 3 Credits  
Prerequisites: CIS 212 - "C"/"C++" Programming. Continues those topics introduced in "C" Language Programming with emphasis on array processing, file processing, and advanced debugging techniques. Provides the opportunity to apply skills in a laboratory environment. This class will also introduce the concept of object oriented programming using the C++ computer language. Differences between C++ and classical C programming will be addressed.

**CIS 222 Office Automation** 3 Credits  
Prerequisites: CIS 101 - Introduction to Microcomputers. Presents a perspective on the needs, potentials and urgencies of systems to support modern office functions. Concentrates on structured analysis and design of hardware/software systems for creating, maintaining, printing, and communicating data files utilizing text-processing systems. Covers methodologies for creating procedures to produce letters and reports from data files. Incorporates concepts and techniques into practical applications.

**CIS 223 Integrated Business Software** 3 Credits  
Prerequisites: CIS 101 - Introduction to Microcomputers or program advisor approval. Presents knowledge of integrated microcomputer software concepts. Students design a complete business system utilizing all parts of an integrated microcomputer software package which can share the same data and manipulate it. Includes use of word processing, electronic spreadsheets, graphics, databases, and command languages.

**CIS 224 Hardware and Software Troubleshooting** 3 Credits  
Prerequisites: CIS 106 - Microcomputer Operating Systems. Presents an in-depth analysis of the components of a computer system and their relationship to each other. Includes concepts of parallel and serial connectivity, installation and maintenance of software, peripheral devices, interface cards, and device drivers. Analyzes realistic hardware/software problems encountered in the workplace and techniques and procedures used to implement solutions.

**CIS 225 Advanced Database Management Systems** 3 Credits  
Prerequisites: CIS 201 - Database Design and Management or CIS 207 - Microcomputer Database Management Systems. Continues CIS 207 Microcomputer Database Management Systems. Emphasizes the development of advanced applications in database management.

**CIS 227 Topics in Information Management** 3 Credits  
Prerequisites: CIS 102 - Information Systems Fundamentals. Discusses topics of current interest in information management. Includes examples from production, operations, accounting, finance, marketing, sales, and human resources. Focuses on special interest projects. Utilizes field trips, guest speakers, audio-visual activities, and seminars.

**CIS 228 Cooperative Education** 1-9 Credits  
Prerequisites: Have completed 50% of required major course credits, with at least a 2.5 average in the occupational field of study, as well as a 2.5 overall scholastic average. Provides students with the opportunity to apply concepts learned in the classroom to actual work situations. Requires program advisor approval.

**CIS 229 Seminar I** 1 Credit  
Prerequisites: Program advisor approval. Discusses topics of current interest in computerized information management with an emphasis on the application of information management skills during lab time. Various seminar topics may be identified and offered each term under this course number.

**CIS 230 Seminar II** 2 Credits  
Prerequisites: Program advisor approval. Discusses topics of current interest in computerized information management with emphasis on application of information management skills during lab time. Identifies and offers various seminar topics each term under this course number.

**CIS 231 Structured Query Language** 3 Credits  
Prerequisites: CIS 201 - Database Design and Management. SQL is now a dominant language used in mainframe, mini, and microcomputer databases (Access, dBASE, paradox, DB2, FoxPro, Oracle, SQL Server, and Btrieve) by diverse groups such as home computer owners, small businesses, large organizations, and programmers. It acts as a bridge between the user, the database management system, the data tables, and transactions involving all three.

**CIS 232 Visual Basic Programming** 3 Credits  
Prerequisites: CIS 113 - Logic, Design, and Programming and previous experience with Windows-based software. Provides a basic understanding of fundamental concepts involved when using a member of a Windows programming development language. Emphasizes logical program design using a modular approach involving task-oriented program functions. Allows the design of a Windows user interface.

**CIS 233 Graphic User Interfaces: Windows** 3 Credits  
Prerequisites: CIS 101 - Introduction to Microcomputers. Provides a foundation of fundamental concepts in the use of Windows-type software. Explores the Windows operating system, accessories and various applications. Develops a proficiency with Windows operations including customizing the environment, integrating applications, and managing files.

**CIS 234 XBase Programming Language** 3 Credits  
Prerequisites: CIS 113 - Logic, Design, and Programming and programming language experience recommended. Provides a basic understanding of the fundamental concepts involved when using a high-level development database language. Emphasizes logical program design using a modular approach. Provides a sound foundation of fundamental concepts, such as the XBase functions.

**CIS 235 Network Fundamentals** 3 Credits  
Prerequisites: CIS 106 - Microcomputer Operating System and Windows-based training is recommended. Studies local area networks, their topologies and functions. Provides a general understanding of the basic LAN protocols. Covers utilization of application software using a local area network to share resources among network members, transferring files between users, set-up and administration of a network, identification of hardware and software needs and LAN-to-mainframe connectivity.

**CIS 240 Introduction to Computer-Integrated Manufacturing** 3 Credits  
Prerequisites: None. Includes the study of all major components of computer-integrated manufacturing (business, engineering and shop floor) as an integrated whole. Includes the planning of a project which will be formally documented and presented by the students and implemented in CIS 241.

**CIS 241 Computer-Integrated Manufacturing Project** 3 Credits  
Prerequisites: CIS 240 - Introduction to Computer-Integrated Manufacturing. Covers the major components of computer-integrated manufacturing (business, engineering and shop floor) as an integrated whole. Covers advanced CIM applications and includes the implementation of a project in a realistic CIM environment.

**CIS 243 Novell Network Administration I** 3 Credits  
Prerequisites: CIS 106 - Microcomputer Operating Systems and CIS 235 - Network Fundamentals. Introduces the organization, structure, functions, and administration of a network operating system. This course is designed to train the student in administration of a local area network. Presents network operating system concepts such as file and shared printing, data protection, application installation, and electronic messaging. Concepts will be incorporated into practical applications.

**CIS 244 Novell Network Administration II** 3 Credits  
Prerequisites: CIS 243 - Novell Network Administration I. Introduces file server management, maintenance, installation, and configuration concepts and techniques. This course is designed to train the student in the tasks required for management and administration of a local area network file server. Presents information on various installation techniques. Concepts will be incorporated into practical applications.

**CIS 245 Networking Technologies Concepts** 3 Credits  
Prerequisites: CIS 243 - Novell Network Administration I and CIS 244 - Novell Network Administration II. Introduces the basic concepts of computer networking. Describes the services provided by a network and explains the different media used to access network services. The OSI model of computer networks is introduced and a description of each of its layers is provided. The OSI model is compared to several different network systems to demonstrate how the network services fit into the model.

**CIS 246 Novell Network Hardware Service and Support** 3 Credits  
Prerequisites: CIS 243 - Novell Network Administration I, CIS 244 - Novell Network Administration II, and CIS 245 - Networking Technologies Concepts. Provides hands-on experience in troubleshooting various components of a computer system including memory, hard disk sub-systems, network interface cards, and network cabling. Focuses on the prevention, diagnosis, and resolution of hardware-related networking problems. Several hands-on labs are used to allow the student to develop a diagnostic ability.



**CIS 247 Novell Network Administration III****3 Credits**

Prerequisites: CIS 243 - Novell Network Administration I, CIS 244 - Novell Network Administration II, CIS 245 - Networking Technologies Concepts, and CIS 246 - Novell Network Hardware Service and Support. Introduces the student to a mixed operating systems network. Introduces network directory services. Teaches the student how to inter-network two different network operating systems. Directory services troubleshooting and network performances issues are covered. Also covers advanced printing techniques and print server configuration.

**CIS 250 - Wide Area Networks****3 Credits**

Prerequisites: CIS 106 - Microcomputer Operating Systems and CIS 202 - Data Communications. Studies wide area networks, their history, various topologies, and functions. Provides a basic understanding of WAN architecture and protocols and their relationship to international standards. Topics include: telephone networks, digital telecommunication technologies (ATM, ISDN, and Broadband ISDN), data transport technologies, wireless WAN technologies, enterprise networks, electronic data interchange, the OSI and SNA models, client-server applications on a WAN, data security and integrity, and network management. Also provides an in-depth look at the Internet and World Wide Web including Internet tools and services, scripting languages, and addressing.

**CIS 251 Advanced Operating Systems****3 Credits**

Prerequisites: CIS 106 - Microcomputer Operating System. Studies advanced topics in operating systems as they apply to Networking application.

**CIS 252 Create an Internet/World Wide Web Site****3 Credits**

Prerequisites: CIS 202 - Data Communications or program advisor approval and CIS 235 - Network Fundamentals. Creates a business or personal external World Wide Web presence and uses Web technology internally as a Local Area Network. Sets up a server, obtains an Internet connection, creates Web pages, applications, and maintains the server. Creates a professional and successful World Wide Web site.

**CIS 253 Graphic Image Lab****3 Credits**

Prerequisites: CIS 101 - Introduction to Microcomputers or program advisor approval. A fundamental course which introduces students to computer graphic design. The beginning focus of the course is on basic computer terminology and use, mastering fundamental skills, and developing efficient working styles. These skills are then developed by creating animation, graphics presentations, and graphics manipulations.

**CIS 254 GUI and WWW****3 Credits**

Prerequisites: Previous knowledge of Windows 3.X - Office software; CIS 233 - Graphic User Interfaces: Windows and CIS 232 Visual Basic Programming helpful. Provides a foundation of fundamental concepts in the use of GUI software. Employs a document-centric approach using all the main applications of Windows-Based Operating Systems and Windows-Based Applications, but integrates the use of the World Wide Web to increase the quality of the output.

**CIS 255 Network Operating Systems****3 Credits**

Prerequisites: CIS 106 - Microcomputer Operating Systems or program advisor approval. Provides access to many client computers through the hardware and software on each computer. Delivers a view of four primary Network Operating Systems used in the workplace today. It also provides a detailed study with hands-on laboratory exercises that promote an understanding and installation of Network Operating Systems. A special emphasis on Novell (v3.12), (v4.01), Microsoft NT (v3.51 and 4.0), and Unix (Linux) are provided. Students learn how to plan and install the operating system and client workstations.

**CIS 256 LAN/Data Communications****3 Credits**

Prerequisites: CIS 106 - Microcomputer Operating Systems or advisor approval, Windows-based training is recommended. Draws on practical examples to explain technical concepts of data communications. Provides a practical understanding of relevant terminology, concepts, hardware, software, protocols, architectures, and other information needed to assist the student in grasping the ever-changing world of data communications. In addition, it also provides a look at networks (LAN) and wide area networks (WAN) and explores planning and analyzing communications systems.

**CIS 258 Network Communication and Connectivity****3 Credits**

Prerequisites: CIS 235 - Network Fundamentals and CIS 243 - Novell Network Administration I. Although networking hardware and software are constantly changing, this course presents a detailed view and analysis of the mechanics and protocols used in computer networks. TCP/IP protocols have taken over where OSI protocols have left off. This course attempts to analyze the TCP/IP model and its close association with the Internet and ATM networks.

**CIS 263 NT Network Administration I****3 Credits**

Prerequisites: CIS 106 - Microcomputer Operating Systems and CIS 202 - Data Communications. Introduces the organization, structure, functions, and administration of a network operating system. This course is designed to train the student in administration of a local area network. Presents network operating system concepts such as file and shared printing, data protection, application installation, and electronic messaging. Concepts will be incorporated into practical application.

**CIS 264 Windows NT Advanced Network Administration****3 Credits**

Prerequisites: CIS 263 - NT Network Administration I. Introduces file server management, maintenance, installation, and configuration concepts and techniques. This course is designed to train the student in the task required for management and administration of a local area network file server. Presents information on various installation techniques. Concepts will be incorporated into practical applications.

**CIS 266 Windows NT Network Hardware Service and Support****3 Credits**

Prerequisites: CIS 264 - Windows NT Advanced Network Administration. Provides hands-on experience in troubleshooting various components of a computer system including memory, hard disk sub-systems, network interface cards and network cabling. Focuses on the prevention, diagnosis and resolution of hardware-related networking problems. Several hands-on labs are used to allow the students to develop a diagnostic ability.

**CIS 273 Network Administration****3 Credits**

Prerequisites: CIS 106 - Microcomputer Operating Systems and CIS 202 - Data Communications. Introduces the organization, structure, functions, and administration of a network operating system. This course is designed to train the student in administration of local area networks. Presents network operating system concepts such as file and shared printing, data protection, application installation, and electronic messaging. Concepts will be incorporated into practical applications.

**CIS 280 Co-op/Internship****1-6 Credits**

Prerequisites: None. Provides students with the opportunity to work at a job site that is specifically related to their career objectives. Provides on-the-job experience while earning credit toward an associate degree.

**CIS 281-293 Special Topics in Computer Information Systems****1-5 Credits**

Prerequisites: None. Provides students with the opportunity to experience seminars, workshops, and other instructional activities on topics of interest that reinforce the concepts presented in their program area.

**CON 101 Introduction to Construction Technology****3 Credits**

Prerequisites: None. Presents history of building construction to present-day applications emphasizing future trends and construction as a career. Provides practice in the operation, maintenance, and safety of various tools including the builder's level and transit.

**CON 106 Construction Blueprint Reading I****3 Credits**

Prerequisites: None. Provides instruction and practice in the use of working drawings and applications from the print to the work. Includes relationship of views and details, interpretation of dimension, transposing scale, tolerance, electrical symbols, sections, materials list, architectural plans, room schedules, and plot plans.

**CON 204 Estimating and Specifications****3 Credits**

Prerequisites: None. Presents the student with the estimating process for residential construction. Emphasizes reading blueprints and specifications, estimating labor, materials take-off, and pricing.

**CON 281-293 Special Topics in Construction Technology****1-5 Credits**

Prerequisites: None. Provides students with the opportunity to experience seminars, workshops, and other instructional activities on topics of interest that reinforce the concepts presented in their program area.

**CTR 114 ON/OFF/Institutional Catering****3 Credits**

Prerequisites: None. Provides an overview of the catering styles/types that exist. Covers techniques of production, service, and showmanship.



<b>CTR 214 Catering Administration</b> Prerequisites: None. Teaches the correct procedures in event bookings, contracts, recordkeeping, and event follow-up. Covers fringe services development, human resource issues, and cost control techniques.	<b>3 Credits</b>
<b>CUL 105 Institutional Food Service</b> Prerequisites: None. Introduces students to the variety of institutional food service facilities. Includes converting recipes for quantity food production, calculating per portion cost, and determining profitable selling price.	<b>2 Credits</b>
<b>CUL 110 Meat Cutting</b> Prerequisites: None. Introduces meat cutting. The student will gain knowledge in the breakdown of beef, pork, poultry, lamb, and veal.	<b>2 Credits</b>
<b>CUL 202 Specialized Cuisine</b> Prerequisites: 4th semester class. Introduces students to foods from various cultures. Provides a background in the history of foods from various countries and develops food preparation skills. Covers table service and tableside food preparation.	<b>3 Credits</b>
<b>CUL 211 Classical Cuisine</b> Prerequisites: None. Presents advanced and sophisticated classical culinary methods following the principles and techniques of Escoffier. Studies cooking techniques, timing, presentation, history, and terms pertaining to classical foods and menus, with emphasis on French cuisines. Provides practical experience in table service operation, kitchen coordination, and timing.	<b>3 Credits</b>
<b>CUL 212 Fish and Seafood</b> Prerequisites: HOS 109 - Hospitality Purchasing. Discusses the importance of fish and seafood in today's market. Includes types and categories of American and imported fish and shellfish, and proper buying, storage, preparation, and merchandising of fish and seafood. Provides experience in boning, cutting, and cooking methods appropriate for seafood.	<b>2 Credits</b>
<b>DCT 101 Basic Drafting</b> Prerequisites: None. Introduces basic mechanical drafting techniques.	<b>3 Credits</b>
<b>DCT 104 Product Drafting</b> Prerequisites: TEC 102 - Technical Graphics, DSN 103 - CAD Fundamentals or advisor approval. Introduces the set concept of working drawings both in detailing and assembly. Presents fastening devices, thread symbols and nomenclature, surface texture symbols, classes of fits, and the use of parts lists, titles, and revision blocks. Introduces the basics of product design and the design process.	<b>3 Credits</b>
<b>DCT 105 Facilities Design and Layout</b> Prerequisites: TEC 102 - Technical Graphics. Focuses on the architectural drawings of commercial or industrial buildings. Covers problems of space planning, design, materials, HVAC systems, and construction methods. Develops working drawings and presentation drawings. Requires oral presentations and discussions. Requires students to complete research on a limited number of construction materials and methods.	<b>3 Credits</b>
<b>DCT 107 Advanced CAD</b> Prerequisites: DSN 103 - CAD Fundamentals. Instructs students in fundamentals of 3-D modeling for design. Includes overview of modeling, types, graphic manipulation, part structuring, coordinate systems, and developing strategy of model geometry.	<b>3 Credits</b>
<b>DCT 108 Residential Drafting</b> Prerequisites: advisor approval. Covers residential planning and drafting. Includes interior planning, structural design, and development of working drawings. Provides opportunity for students to design a residence using accepted building standards from information given in class	<b>3 Credits</b>
<b>DCT 109 Construction Materials and Specifications</b> Prerequisites: None. Introduces various construction materials, composition, and application. Studies specifications of materials, construction contracts, and applications required in the building industry.	<b>3 Credits</b>

<b>DCT 110 Architectural Rendering</b> Prerequisites: TEC 102 - Technical Graphics. Presents a survey and history of pictorial drawings. Studies light and color, rendering media, and application of different techniques and media through a series of exercises.	<b>3 Credits</b>
<b>DCT 113 Intermediate CAD</b> Prerequisites: DSN 103 - CAD Fundamentals, TEC 104 - Computer Fundamentals for Technology. Continues study of CAD fundamentals. Focuses on advanced CAD features and various methods of customizing CAD systems.	<b>3 Credits</b>
<b>DCT 201 Schematic Drafting</b> Prerequisites: TEC 102 - Technical Graphics, DSN 103 - CAD Fundamentals. Corequisites: DCT 206 - Mechanical and Electrical Equipment. Presents the systematic layout of various types of schematic drawing done by a draftsman. Requires students to prepare finished drawings for manufacture or installation of plumbing, heating, electrical, electronic, and fluid-power type drawing.	<b>3 Credits</b>
<b>DCT 202 CAD Programming Language</b> Prerequisites: DSN 103 - CAD Fundamentals. Covers use of computer language to program commands for CAD.	<b>3 Credits</b>
<b>DCT 204 Architectural CAD</b> Prerequisites: TEC 102 - Technical Graphics, TEC 104 - Computer Fundamentals for Technology. Presents advanced computer-aided design topics, including architectural design. Includes all necessary drawings needed for the construction process.	<b>3 Credits</b>
<b>DCT 205 Introduction to Plastics</b> Prerequisites: TEC 102 - Technical Graphics. Introduces students to the major plastic processing industries, techniques, and most widely used plastic polymers, their applications, and properties.	<b>3 Credits</b>
<b>DCT 206 Mechanical and Electrical Equipment</b> Prerequisites: MAT 111 - Intermediate Algebra or MAT 131 - Algebra/Trigonometry I. Focuses on mechanical and electrical requirements for a structure. Studies electrical load calculations, wire sizing, and circuits. Calculates plumbing requirements, fixture units, and pipe sizing. Includes heating systems, duct layout, and sizing.	<b>3 Credits</b>
<b>DCT 207 Die Design Drafting</b> Prerequisites: DCT 204 - Product Drafting, TEC 101 - Manufacturing Processes. Studies the drafting, detailing, and design of blanking, piercing, and forming dies. Covers material reaction to shear, cutting clearances, and nest gauging.	<b>3 Credits</b>
<b>DCT 208 Structural Detailing</b> Prerequisites: TEC 102 - Technical Graphics, DSN 103 - CAD Fundamentals, DCT 109 - Construction Materials and Specifications and advisor approval. Focuses on detailing commercial structural members, their connections, materials, and methods of construction. Concentrates on traditional materials, such as reinforced concrete, masonry, steel, and timber.	<b>3 Credits</b>
<b>DCT 209 Estimating/CAD</b> Prerequisites: DCT 204 - Architectural CAD, DCT 108 - Residential Drafting. Introduces estimating procedures used in the building industry. Studies material takeoffs, estimating overhead expenses, contingencies, labor, and equipment. Involves the use of computers to generate takeoffs and to set pricing.	<b>3 Credits</b>
<b>DCT 210 Surveying I</b> Prerequisites: MAT 121 - Geometry/Trigonometry or MAT 131 - Algebra/Trigonometry I. Introduces surveying equipment, procedures for performing measurements, turning angles, determining grades, and other field applications. Covers surveying techniques and computations using the level, chain and transit in calculating areas, lines, and grades	<b>3 Credits</b>
<b>DCT 211 Commercial Structures I</b> Prerequisites: DCT 204 - Architectural CAD, DCT 108 - Residential Drafting. Focuses on planning and drawing commercial structures. Uses a presentation drawing and working drawing for concrete structures and steel structures.	<b>3 Credits</b>

**DCT 212 Commercial Structures II****3 Credits**

Prerequisites: DCT 211 - Commercial Structures I. Focuses on planning and drawing commercial structures. Uses working drawings for pre-engineered and concrete/steel structures.

**DCT 213 CAD Mapping****3 Credits**

Prerequisites: DSN 103 - CAD Fundamentals, DCT 210 - Surveying I. Covers the concepts of map making with computer-aided drafting and typical drafting media found in the industry. Studies civil engineering applications of mapping procedures including profiles, topography, and site plans.

**DCT 214 Machine Design****3 Credits**

Prerequisites: DCT 104 - Product Drafting, MAT 111 - Intermediate Algebra or MAT 131 - Algebra/Trigonometry I. Presents practical solutions to mechanical design problems. Studies the design of machine elements including shafts, bearings, keys, pins, and springs. Includes the geometry and drafting of cams and gears and the study of linkages.

**DCT 215 Electronic Drafting/CAD****3 Credits**

Prerequisites: TEC 102 - Technical Graphics and DSN 103 - CAD Fundamentals. Introduces students to electronic schematics, drill indexing, and printed circuit board design. Emphasizes the creation and manipulation of basic symbols, connection diagrams, block and logic diagrams, including the use of figure parts, and data extract.

**DCT 216 Jig and Fixture Design****3 Credits**

Prerequisites: DCT 104 - Product Drafting and TEC 101 - Manufacturing Processes. Introduces the processes of drafting and design as applied to tooling. Emphasizes tooling, locators, supports, holding devices, clearances, and design as it pertains to jig and fixtures.

**DCT 217 Product Design****3 Credits**

Prerequisites: DCT 104 - Product Drafting and DSN 222 - Strength of Materials. Provides the student an opportunity to apply all previously acquired knowledge in product drafting to the design of a new or existing consumer product. Considers the function, aesthetics, cost economics, and marketability of the product. Requires a research paper and product illustration.

**DCT 218 CAD/CAM Design****3 Credits**

Prerequisites: DSN 220 - Advanced CAD. Covers the development of various machine routines. Studies the control of the CNC mill and lathe. Includes material handling and robotics.

**DCT 227 Geometric Dimensioning and Tolerancing****3 Credits**

Prerequisites: TEC 102 - Technical Graphics. Introduces the fundamental principles of geometric dimensioning and tolerancing according to the latest ANSI standards. Applies geometric dimensioning and tolerancing symbols along with tolerances of form, profile, orientation, run-out, and location.

**DCT 228 Civil I****3 Credits**

Prerequisites: TEC 102 - Technical Graphics and DSN 103 - CAD Fundamentals. Explores the engineering field. Presents an overview of infrastructure design, including the study of roadways and drainage systems. Emphasizes site development and highway planning.

**DCT 229 Civil II****3 Credits**

Prerequisites: DCT 228 - Civil I. Presents construction management techniques, including scheduling, and contracts. Studies soil properties and paving methods. Examines practical construction considerations.

**DCT 230 Computer Rendering and Animation****3 Credits**

Prerequisites: DSN 220 - Advanced CAD. Instructs students in fundamentals of computer generalized renderings and animations using 3-D Studio software and its components.

**DCT 240 Introduction to Computer-Integrated Manufacturing****3 Credits**

Prerequisites: advisor approval. Includes the study of all major components of computer-integrated manufacturing (business, engineering and shop floor) as an integrated whole. Includes the planning of a project which will be formally documented and presented by students and implemented in DCT 241.

<b>DCT 241 Computer-Integrated Manufacturing Project</b>	<b>3 Credits</b>
Prerequisites: DCT 240 - Introduction to Computer-Integrated Manufacturing. Covers the major components of computer-integrated manufacturing (business, engineering and shop floor) as an integrated whole. Covers advanced CIM applications and includes the implementation of a project in a realistic CIM environment.	
<b>DSN 103 CAD Fundamentals</b>	<b>3 Credits</b>
Prerequisites: None. Corequisites: TEC 102 - Technical Graphics or advisor approval. Introduces fundamentals of CAD (Computer-Aided Drafting). Includes overview of CAD and systems, use of software, and plotter applications. Each student will complete an individual project by the end of the semester.	
<b>DSN 106 Descriptive Geometry</b>	<b>3 Credits</b>
Prerequisites: TEC 102 - Technical Graphics. Introduces fundamental principles in developing graphical solutions to engineering problems. Covers true length, piercing points on a plane, line intersections, true shapes, revolutions, and developments using successive auxiliary views.	
<b>DSN 220 Advanced CAD</b>	<b>3 Credits</b>
Prerequisites: TEC 102 - Technical Graphics and DSN 103 - CAD Fundamentals. Focuses on advanced CAD features, including fundamentals of three-dimensional modeling for design. Includes overview of modeling, graphic manipulation, part structuring, coordinate system, and developing strategy of model geometry.	
<b>DSN 221 Statics</b>	<b>3 Credits</b>
Prerequisites: PHY 101 - Physics I, MAT 121 - Intermediate Algebra or MAT 131 - Algebra/Trigonometry I. Studies applied mechanics dealing with bodies at rest. Covers units, vectors, forces, equilibrium, moments and couples, planar force systems, distributed forces, analysis of structures (trusses and frames), and friction.	
<b>DSN 222 Strength of Materials</b>	<b>3 Credits</b>
Prerequisites: DSN 221 - Statics. Studies internal stresses and physical deformations caused by externally applied loads to structural members. Covers stress and strain, shear stress, properties of areas, shearing force and bending moment, deformation of beams, columns, and combined stresses. Teaches various materials' physical and mechanical properties.	
<b>DSN 280 Co-op/Internship</b>	<b>3 Credits</b>
Prerequisites: Students must have completed a minimum of 30 credits toward their degree with at least a 3.0 cumulative grade point average. Requires students to work at a job site that is specifically related to their career objectives. Provides on-the-job experience while earning credit toward an associate degree.	
<b>DSN 281-293 Special Topics in Design Technology</b>	<b>1-5 Credits</b>
Prerequisites: None. Provides students with the opportunity to experience seminars, workshops, and other instructional activities on topics of interest that reinforce the concepts presented in their program area.	
<b>ELT 120 Introduction to Electronics</b>	<b>3 Credits</b>
Prerequisites: MAT 050 - Basic Algebra. Provides the student with limited preparatory study and entry into program level content. Topics include laboratory skills, basic manipulative skills, interpretation of diagrams and hand soldering techniques. Emphasis is placed upon the use of Electronic Work Bench software to model and analyze electronic components and circuits.	
<b>ELT 121 Circuits I</b>	<b>3 Credits</b>
Prerequisites: None. Introduces the basics of electricity and electronics. Covers DC circuits. Uses lab work to stress the use of test equipment. Discusses resistance, magnetism, series circuits, parallel circuits, Ohm's Law, Kirchhoff's Laws and circuit analysis (superposition, Thevenin, etc.).	
<b>ELT 122 Circuits II</b>	<b>3 Credits</b>
Prerequisites: ELT 121 - Circuits I, MAT 131 - Algebra/Trigonometry I. Studies electrical principles and laws pertaining to alternating current and voltage. Covers AC network theorems, operator, phasors, reactances, impedances, phase relationships, power, resonance, transformers, polyphase, and filter circuits.	

**ELT 123 Circuits Lab****2 Credits**

Prerequisites: ELT 121 - Circuits I, MAT 131 - Algebra/Trigonometry I. Uses laboratory experiences to enhance and confirm the theories and practices discussed in Circuits I. Provides hands-on training in the use of shop test equipment. Presents troubleshooting skills and care of equipment relevant to electronics.

**ELT 124 Digital I****3 Credits**

Prerequisites: None. Introduces digital electronics, including logic gates and combinational logic circuits. Studies binary arithmetic, Boolean algebra, mapping techniques, digital encoders and decoders, multiplexers and demultiplexers, and arithmetic circuits. Uses SSI and MSI digital integrated circuits.

**ELT 125 Digital II****3 Credits**

Prerequisites: ELT 124 - Digital I. Offers advanced study of digital systems, including memory and D/A conversion. Covers construction of specified timing circuits, design driver/display systems, selected register design, counters and arithmetic circuits and validation of operation. Studies hardware and general microprocessor system organization.

**ELT 126 Solid State I****3 Credits**

Prerequisites: MAT 131 - Algebra/Trigonometry I, or MAT 134 - Trigonometry, ELT 122 - Circuits II (may be corequisite). Studies characteristics and applications of semiconductor devices and circuits. Covers signal and rectifying diodes, bipolar transistors, rectification, single and multistage amplifiers, AC/DC load lines, biasing techniques, equivalent circuits and power amplifiers.

**ELT 127 Industrial Electronics****3 Credits**

Prerequisites: ELT 126 - Solid State I. Presents overview of electronics in the industrial setting. Instructs students in how electronics is applied to industrial systems. Introduces power machines, polyphase systems, solid state controls, transducers, and industrial computer systems.

**ELT 128 Introduction to Lasers****3 Credits**

Prerequisites: MAT 131 - Algebra/Trigonometry I. Introduces laser action, laser beam characteristics, types of lasers, safety considerations, general laser applications, laser and optical equipment. Teaches basics of laser, laser systems and prepares beginning laser students for future courses.

**ELT 129 Laser and Optical Measurements****3 Credits**

Prerequisites: None. Examines the instrumentation available for evaluating the characteristics of laser light. Includes introduction to radiometry/photometry and typical energy/power detectors. Discusses photographic recording mediums and import optical measuring instruments (spectrometers, monochromators, interferometers and spectrophotometers). Stresses hands-on experience with current optical equipment used in measurement and analysis of CW and pulsed laser beams.

**ELT 130 Fiber Optics****3 Credits**

Corequisites: ELT 122 - Circuits II. Presents overview of fiber optics. Studies uses for fiber optics, advantages, cable details, connectors, splices, sources, detectors, and fiber optic systems.

**ELT 131 Satellite Communications****3 Credits**

Prerequisites: ELT 230 - Advanced Communications Electronics. Presents theory of satellite operations, site perimeters for and methods of site preparation and installation of satellite dish. Aids in making a decision as to which type of dish to use for a particular installation.

**ELT 203 Introduction to Industrial Controls****3 Credits**

Prerequisites: ELT 221 - Solid State II, ELT 223 - Electrical Machines. Studies basics of controls related to industrial electronics. Includes basic and pilot control devices such as circuit layouts, industrial schematics, reduced voltage starters and multi-speed controllers. Covers transformer hook-ups and circuit protection.

**ELT 206 Analog Troubleshooting Techniques****3 Credits**

Prerequisites: ELT 228 - Communications Electronics. Studies techniques for logical troubleshooting of electronic circuits and simple systems with emphasis on systematic diagnostic methods, signal tracing and signal injection methods. Provides experience in use of test equipment and electronic communication skills.



**ELT 207 Digital Troubleshooting Techniques****3 Credits**

Prerequisites: ELT 222 - Microprocessors. Studies techniques for logical troubleshooting of microcomputers. Includes modal testers, microcomputer controlled testers, static stimulus testers, signature analysis, and logic analyzers. Emphasizes system oriented troubleshooting procedures.

**ELT 210 VCR Theory****3 Credits**

Prerequisites: None. Studies video cassette recorder theory with VDR troubleshooting techniques and VCR test equipment usage. Provides instruction in diagnostic testing through signal injection and signal tracing, emphasizing recording, playback and servo circuits. Provides students with quantitative and qualitative knowledge of the fundamental principles and terms used in VCR theory and repair.

**ELT 211 Wave Optics and Components****3 Credits**

Prerequisites: ELT 228 - Communications Electronics. Treats the wave nature of light as manifested in interference, diffraction and polarization phenomena in optical systems. Analyzes and uses optical components that modify, control, or detect light. Includes discussion of light source, wave nature of light interference, diffraction, polarization, holography, beam splitters, filters, isolators, gratings, polarizers and non-linear optical materials. Stresses hands-on experience in application/evaluation of wave optic devices in typical optical systems.

**ELT 212 Networking****3 Credits**

Prerequisites: None. Studies types of protocol used in data communication systems. Includes an overview of networking, network control, and interfacing. Emphasizes protocols, packet switching systems, and local area networks.

**ELT 214 Industrial Instrumentation****3 Credits**

Prerequisites: ELT 126 - Solid State I. Emphasizes precision measurement via pressure, strain, force, flow, and level gauges. Covers the related probes, sensors, transducers, computer interfaces, computer hardware and peripherals, and computer software necessary for the acquisition, summarization, analysis and presentation of data.

**ELT 215 Laser Systems and Applications****3 Credits**

Prerequisites: ELT 122 - Circuits II, ELT 128 - Introduction to Lasers, ELT 240 - Optics. Provides an in-depth coverage of laser types and applications. Focuses on ion, molecular, liquid, solid state and semi-conductor lasers with specific attention given to Nd:YAG, Ruby, CO<sub>2</sub> and gallium arsenide. Discusses flash lamps, power supplies (CW and pulsed), and energy transfer mechanisms for each laser type. Examines other parts of laser systems, including electro-optic and acousto-optic modulators, Q-switching, mode locking, and mechanical and bleachable dye methods. Includes a description of lasers in medicine, surgery, dentistry, communications, range finding, alignment tracking, welding, cutting, drilling, data recording, and display. Stresses hands-on operation and trouble shooting of each laser type and small-scale examples of applications.

**ELT 216 Laser and Optical Measurements****3 Credits**

Prerequisites: None. Examines the instruments and methods available for evaluating laser light and supporting optical equipment (lenses, mirrors, etc.). Includes an introduction to radiometry/photometry and typical energy/power detectors. Photographic recording mediums and important optical measuring instruments (spectrometers, spectrophotometers, monochromators and interferometers) and methods (interference and non-interference testing) are also discussed. Laboratory experiments stress hands-on experience with current optical measuring equipment and methods.

**ELT 217 Laser Projects****3 Credits**

Prerequisites: advisor approval. Provides students with an opportunity to work on individual projects directly with the instructor to build laser-related project(s).

**ELT 218 Geometrical Optics****3 Credits**

Prerequisites: advisor approval. Applies mathematical and graphical techniques to the reflection/refraction of light at typical optical surfaces. Analyzes and uses typical optical components. Includes discussion of ray tracing, imaging with lenses, F-stops and apertures, mirrors, lenses, prisms, windows, optical flats, matrix optics, etalons, beam expanders, collimators and autocollimators, optical tables, optical supports, optical systems, and photographic components.

**ELT 219 Biomedical Electronics I****3 Credits**

Prerequisites: ELT 125 - Digital II. Offers further study of medical electronics equipment, including ECG, EEG, defibrillators, heart monitors, and other monitoring and respiratory equipment.



**ELT 220 Biomedical Electronics II****3 Credits**

Prerequisites: ELT 219 - Biomedical Electronics I. Studies medical support systems including x-ray equipment, respirators and analyzers, and their maintenance. Studies medical ultra-sound, electrosurgery units, and mechanical recorders. Prepares students for licensing and certification.

**ELT 221 Solid State II****3 Credits**

Prerequisites: ELT 126 - Solid State I. Studies applications of special-purpose diodes, thyristors, and unipolar transistors. Discusses frequency effects and responses of amplifiers. Includes discrete SCRs, UJTs, FETs, oscillators, linear regulated power supplies, switching regulators, and power amplifiers. Introduces op-amps.

**ELT 222 Microprocessors****3 Credits**

Prerequisites: TEC 104 - Computer Fundamentals for Technology, ELT 125 - Digital II. Introduces microprocessor system organization, operation, design, troubleshooting, and programming. Investigates and analyzes a microprocessor instruction set for its operation. Includes programming and interfacing a microprocessor.

**ELT 223 Electrical Machines****3 Credits**

Prerequisites: ELT 122 - Circuits II, MAT 131 - Algebra/Trigonometry I. Provides an overview of electrical machines and how they relate to industrial electronics. Gives industrial electronics technicians insight into electrical power generation, polyphase system, transformers, all types of electrical motors, power factor and power factor correction, back-up power, and electrical power monitoring.

**ELT 224 Linear Integrated Circuit Application****3 Credits**

Prerequisites: ELT 221 - Solid State II. Introduces operational amplifiers (op-amps), characteristics, and operations. Includes op-amp active filters, amplifiers, regulators, comparators, timers, oscillators, and phase-locked loops.

**ELT 225 Introduction to National Electrical Code****3 Credits**

Prerequisites: None. Introduces the role and use of the National Electrical Code Book. Provides an overview of interpretation, calculations, and revisions of the code book.

**ELT 226 Computer Troubleshooting****3 Credits**

Prerequisites: ELT 222 - Microprocessors. Studies techniques for logical troubleshooting of microcomputers. Emphasizes system-oriented troubleshooting procedures.

**ELT 227 Peripherals****3 Credits**

Prerequisites: ELT 226 - Computer Troubleshooting. Studies peripherals commonly used with computers and microcomputers interfacing with these peripherals. Includes a study of data communications hardware and techniques. Studies the design of circuits to interface microprocessors with industrial equipment. Includes microcomputer systems interfacing with input and output transducers for control systems. Studies techniques for logical troubleshooting of microcomputer systems.

**ELT 228 Communications Electronics****3 Credits**

Corequisites: ELT 221 - Solid State II. Analyzes communication circuits with emphasis on AM, FM, SSB, and stereo transmitter and receiver systems. Includes noise modulation and demodulation principles, phase-locked loop, RF amplifiers, automatic gain control, detectors, limiters, and discriminators. Offers hands-on lab exposure to analog circuits utilizing analysis and troubleshooting techniques.

**ELT 229 Telecommunications****3 Credits**

Prerequisites: ELT 125 - Digital II, ELT 126 - Solid State I. Examines various methods in transmitting digital data from one location to another. Covers time and frequency division multiplexing. Includes pulse-code and delta modulation, telemetry, error detection, and correction and simple networks. Covers techniques for logical troubleshooting of telephonic systems.

**ELT 230 Advanced Communications Electronics****3 Credits**

Prerequisites: ELT 228 - Communications Electronics. Introduces antenna principles and wave propagation and an in-depth study of matching techniques for transmission lines. Includes the Smith Chart and a thorough study of television operation. Measures radiation patterns with different antenna arrays. Practices digital and analog troubleshooting techniques.

**ELT 231 Microwave Communications****3 Credits**

Prerequisites: ELT 230 - Advanced Communications Electronics. Studies microwave transmission lines, waveguides, waveguide components, including hybrid couplers, attenuators, microwave filters, phase shifters, T-junctions, irises and microwave tubes.

**ELT 233 Industrial Motors and Controls****3 Credits**

Prerequisites: ELT 122 - Circuits II, AMT 201 - Manufacturing Systems Control (PLCs). Provides a complete understanding of basic ladder and wiring diagrams used in the control of electric motors. Includes the various electrical components and their functions as applied to motor controls. Topics include the various types of motors used in applying electro-mechanical power, ranging from small AC shaded-pole fan motors through larger three-phase motors. Motor starting components, protective devices, heat dissipation, motor slippage and frequency, and multi-speed motors are discussed. Lab assignments allow the student a hands-on approach to wiring various control components in the operation of three-phase motors.

**ELT 234 Advanced Problem Solving****3 Credits**

Prerequisites: ELT 125 - Digital II. Corequisites: ELT 221 - Solid State II, ELT 224 - Linear Integrated Circuit Applications. Introduces logical troubleshooting of electronic circuits and systems with emphasis on systematic diagnostic methods and technical reference research. Provides further experience in the use of test equipment and proper repair techniques. Includes job preparedness skills and preparation for appropriate certification testing.

**ELT 235 Process Control****3 Credits**

Prerequisites: ELT 224 - Linear Integrated Circuit Applications. Covers theory and applications of process control including the principles of PID, feedback, open loop and closed loop systems and typical process control applications.

**ELT 237 Calibrations****3 Credits**

Corequisites or Prerequisites: ELT 122 - Circuits II. Provides training in dismantling and calibration of instruments (electronic and pneumatic) found in industry, including DP cells, pH and oxygen analyzers, valve positioners, thermocouple circuits and controllers and control valves.

**ELT 238 Process Instrumentation****3 Credits**

Prerequisites: ELT 125 - Digital II, ELT 221 - Solid State II. Presents the concepts and fundamentals of measurement instrumentation and its application to industrial process control.

**ELT 239 Troubleshooting Techniques****3 Credits**

Prerequisites: ELT 125 - Digital II, ELT 221 - Solid State II, ELT 233 - Industrial Motors and Controls, and approval of program chair. Introduces techniques of logical troubleshooting of electronic circuits and systems with emphasis on systematic diagnostic methods, signal tracing, and signal injection methods. Provides further experience in the use of test equipment and proper repair techniques. Class sessions will consist of lecture, discussion, and problem recitation. Problem-solving and laboratory assignments will reinforce concepts in the reading and lecture experience.

**ELT 240 Optics****3 Credits**

Prerequisites: None. Discusses principles of optics emphasizing geometrical and physical optics. Includes interference, reflection, refraction, polarization, diffraction, and birefringence. Discusses devices used in experiments including lenses, diffraction grating, polarization filters, prisms, mirrors and etalons.

**ELT 242 FCC License Preparation****1 Credit**

Prerequisites: ELT 228 - Communications Electronics. Provides an in-depth review of the topics covered in the test for a Federal Communications Commission (FCC) license. Emphasizes DC and AC electronics, solid state electronics, test and measurement instruments, communications principles and FCC rules and regulations.

**ELT 280 Co-op/Internship****1-6 Credits**

Prerequisites: None. Provides students the opportunity to work at a job site that is specifically related to their career objectives. Provides on-the-job experience while earning credit toward an associate degree.

**ELT 281-293 Special Topics in Electronics Technology****1-5 Credits**

Prerequisites: None. Provides students with the opportunity to experience seminars, workshops and other instructional activities on topics of interest that reinforce the concepts presented in their program area.

<b>ENV 101 Introduction to Environmental Technology</b>	<b>3 Credits</b>
Prerequisites: None. Provides students with an overview of pollution problems involving water, air, solid waste, radiation, population, and noise. Discusses current national and international problems and concerns.	
<b>ENV 102 Environmental Management</b>	<b>3 Credits</b>
Prerequisites: None. Introduces the political process of environmental law.	
<b>ENV 103 Environmental Chemistry</b>	<b>3 Credits</b>
Prerequisites: MAT 111 - Intermediate Algebra. Provides hands-on laboratory training in the application of EPA and state-required permit parameters to determine facility compliance. Reviews sampling techniques and preservation methods and basic statistical quality control analysis.	
<b>ENV 104 Plant Operations-Sanitary</b>	<b>3 Credits</b>
Prerequisites: advisor approval. Provides the basic principles of aerobic and anaerobic biological treatment processes, including activated sludge, trickling filters, lagoons, sludge handling, and disinfection. Reviews state and federal regulations related to wastewater plants.	
<b>ENV 105 Air Management</b>	<b>3 Credits</b>
Prerequisites: None. Focuses on understanding air pollution sources, effects, and treatment technologies.	
<b>ENV 106 Water</b>	<b>3 Credits</b>
Prerequisites: ENV 103 - Environmental Chemistry. Introduces the basic treatment processes of water supplies including coagulation, sedimentation, filtration, chemical dosage, taste, and odor control.	
<b>ENV 107 Applied Research I</b>	<b>3 Credits</b>
Prerequisites: advisor approval. Requires completion of a special project or case study specifically related to the occupational area. Serves as a field project within the framework of actual working experience in business or industry or a research case study including data collection and data analysis.	
<b>ENV 108 Engineering Properties of Earth Materials</b>	<b>3 Credits</b>
Prerequisites: None. Emphasizes the influences of soils and geologic structures on ground water flow and facility site selection.	
<b>ENV 109 Water Supply</b>	<b>3 Credits</b>
Prerequisites: None. Covers the elementary engineering aspects of water supply and distribution and maintenance of collection systems.	
<b>ENV 202 Applied Research II</b>	<b>3 Credits</b>
Prerequisites: ENV 107 - Applied Research I. Requires completion of a special project or case study specifically related to the occupational area. Serves as a field project within the framework of actual working experience in business or industry or a research case study including data collection and data analysis.	
<b>ENV 203 Environmental Microbiology</b>	<b>3 Credits</b>
Prerequisites: BIO 211 - General Microbiology and ENV 103 - Environmental Chemistry. Continues the study of microorganisms with emphasis on water, wastewater and related public health and stream sanitation problems. Includes laboratory exercises on bacteriological techniques in the analysis of samples for numbers, types and effects of microbes in the degradation, and/or rehabilitation of our air, food, and water supplies.	
<b>ENV 204 Basic Fluid Mechanics</b>	<b>3 Credits</b>
Prerequisites: None. Introduces the principles of flow measurement, metering in closed conduits, open channels, streams, storm run-off, pump characteristics, and air flow.	

**ENV 208 Plant Operations-Industrial** 3 Credits  
Prerequisites: advisor approval. Covers wastewater treatment processes including coagulation, sedimentation, activated sludge, neutralization, equalization, and cyanide and chromate removal. Presents instrumentation, maintenance, and troubleshooting. Includes operations, laboratory testing, and associated mathematics.

**ENV 212 Solids Handling and Disposal** 3 Credits  
Prerequisites: ENV 101 - Introduction to Environmental Technology. Introduces the theory, equipment, and operational procedures of a variety of sludge treatment and disposal techniques. Covers processes, equipment, process management, and process control for sludge volume reduction, solids reduction, conditioning, stabilization, and solids disposal.

**ENV 213 Air Pollution Control II** 3 Credits  
Prerequisites: ENV 105 - Air Management. Provides an in-depth study of various air quality analyses and modeling techniques.

**ENV 214 Environmental Regulations** 3 Credits  
Prerequisites: None. Surveys the major current environmental regulations.

**ENV 215 Waste Disposal** 3 Credits  
Prerequisites: ENV 212 - Solids Handling and Disposal. Provides students with a basic understanding of solid and hazardous waste disposal problems.

**ENV 216 Environmental Chemistry II** 2 Credits  
Prerequisites: ENV 103 - Environmental Chemistry. Studies the analysis of metals and organics. Includes the operation of atomic absorption, gas and liquid chromatography, and mass spectrophotometers

**ENV 280 Co-op/Internship** 1-6 Credits  
Prerequisites: Departmental approval. Provides students the opportunity to work at a job site that is specifically related to their career objectives. Provides on-the-job experience while earning credit toward an associate degree.

**FST 101 Introduction to Food Preparation** 3 Credits  
Corequisites: HOS 101 - Sanitation and First Aid. An introduction to preparation principles, nutrition, and menu writing. Emphasis is placed on basic food preparation techniques, food interactions during cooking and storage, and the evaluation of finished products.

**FST 102 Food Service Equipment Operations** 3 Credits  
Prerequisites: None. An in-depth study of food service equipment including cleaning, preventive maintenance, specifications and legal requirements with an emphasis on usage.

**FST 103 Food Service Sanitation and Safety** 3 Credits  
Prerequisites: None. Studies sanitation procedures for the prevention of food-borne illnesses and food contamination in food service facilities. Stresses accident prevention through proper safety methods.

**FST 104 Food Production, Methods, and Procedures** 3 Credits  
Prerequisites: FST 103 - Food Service Sanitation and Safety, FST 102 - Food Service Equipment and Operations, and FST 101 - Introduction to Food Preparation. Provides study of and application of food production methods and procedures with an emphasis on soups, sauces, and gravies.

**FST 105 Quality Service Standards** 3 Credits  
Prerequisites: HOS 101 - Sanitation and First Aid. Provides students with techniques of serving, bussing, and cashing in dining operations.

**FST 106 - Application of Food Service Production I** 3 Credits  
Prerequisites: HOS 101 - Sanitation and First Aid, FST 102 - Food Service Equipment Operations, and FST 104 - Food Production, Methods, and Procedures. Provides the knowledge and applications of the principles of pantry production, baking, vegetable and fruit preparation, pastries, and breakfast cookery.

**FST 108 Application of Food Service Production II****3 Credits**

Prerequisites: HOS 101 - Sanitation and First Aid, FST 101 - Introduction to Food Preparation, FST 102 - Food Service Equipment Operations, and FST 106 - Application of Food Service Production I. Provides knowledge and application of production methods and procedures for meat, seafood, poultry, dairy products, and hot hors d'oeuvres.

**FST 109 Computer Food Service Spreadsheets****3 Credits**

Prerequisites: None. Introduces microcomputers and specific food service applications. Covers basic procedures for food service spreadsheet applications involving analysis and reporting using Lotus 1-2-3 or compatible software.

**FST 110 Professional Dining Room Service****3 Credits**

Prerequisites: HOS 101 - Sanitation and First Aid and FST 105 - Quality Service Standards. Provides students with skills in French and Russian service techniques. Included are tableside cooking and wine and beverage service.

**GRA 102 Introduction to Machine Printing****3 Credits**

Prerequisites: None. Provides a history and overview of the interrelationships of processes, materials and techniques utilizing equipment and tools necessary in platemaking, bindery/finishing, and offset press. Allows students to take assigned projects from design to bindery.

**GRA 104 Art and Copy Preparation****3 Credits**

Prerequisites: None. Provides a foundation in design, typographic, and communication concepts. Presents traditional techniques, as well as computer-aided technologies in the consideration of color, format, and use of visuals in illustration. Emphasizes problem solving with assignments executed through strip-up of the negative into a flat and proofing.

**GRA 106 Introduction to Color Printing****3 Credits**

Prerequisites: None. Studies basic color theory, materials, and methods used in reproduction processes. Covers techniques and materials with assignments utilizing different processes, including 4-color from pre-separated negatives, register, and run. Includes inks and systems.

**GRA 107 Composition Systems I****3 Credits**

Prerequisites: None. Covers use, operation, and application of machine principles and mechanisms related to typesetting, laboratory projects in setting composition photographically, and utilization and examination of various input systems.

**GRA 110 Advertising Design****3 Credits**

Prerequisites: None. Covers newspaper and magazine ads, two- and four-color folders, brochures, calendars, and point of purchase merchandising aids in a comprehensive form for national advertising.

**GRA 201 Photomechanical Reproduction****3 Credits**

Prerequisites: None. Introduces image conversion in black and white and color theory. Examines photo chemistry, halftones, darkroom techniques, and diffusion transfer.

**GRA 202 Science of Color****3 Credits**

Prerequisites: None. Presents physical properties of light and color and psychological aspects of color perception and relationships through creative exercises. Examines color theories of Itten, Munsell, Goethe, Chevreul, and Albers.

**GRA 203 Graphic Design****3 Credits**

Prerequisites: None. Analyzes and reviews basic theories of graphic layout and design and their underlying principles and processes. Includes alphabet design and design language, imposition, design steps, rough, thumbnail, comprehensive, and final layout and preparation of dummy.

**GRA 204 Designing with Type****3 Credits**

Prerequisites: None. Introduces typography, type classification, identification, and selection. Includes copy fitting, mark-up systems, proofreading, and fundamentals of layout and design for print media.



**GRA 205 Survey of Printing Processes** 3 Credits  
Prerequisites: None. Presents topics not normally covered in other courses. Examines those types of printing businesses in local area, utilizing guest lecturers from these businesses. Local market is surveyed and students are responsible for a research project concerning local business with presentation of oral or written report.

**GRA 207 Audiovisual Presentation** 3 Credits  
Prerequisites: None. Teaches the use of design principles in 35mm color transparencies and fundamentals of studio production and editing. Requires each student to present a slide/tape production that conveys a concept through the effective combination of images, music, and/or narration.

**GRA 211 Flexography** 3 Credits  
Prerequisites: None. Includes study of high-speed roll-fed press operation. Emphasizes safety, set-up, and register. Includes field trips to flexo-webb printing plants.

**GRA 213 Desktop Publishing** 3 Credits  
Prerequisites: None. Covers computer techniques in pre-preparatory and preparatory composing procedures, including typesetting and typographic concepts. Emphasizes computer skills and output.

**GRA 214 Screen Printing** 3 Credits  
Prerequisites: None. Explores screen construction and process reproduction methods. Includes paper, tusche, knife-cut and photographic stencils, and printing media surfaces applications.

**GRA 215 Computer Graphics II** 3 Credits  
Prerequisites: None. Provides an overview of computers and their creative potential in graphic design focusing on videotext graphics. Allows students to create and manipulate images using a keyboard and a graphics tablet.

**GRA 218 Troubleshooting and Maintenance** 3 Credits  
Prerequisites: None. Includes upkeep, lubrication, and techniques of spotting malfunctioning equipment and corrections of problems concerning paper feed, dampening, and inking systems.

**GRA 219 Special Problems in Printing** 3 Credits  
Prerequisites: None. Uses individual investigation, research, studies, and/or surveys of selected problems to enable students to identify objectives, procedures, equipment, and key checkpoints on selected projects. Includes color separation, plant management, and quality control.

**GRA 224 Photojournalism** 3 Credits  
Prerequisites: None. Requires students to photograph community events and human interest features to gain experience in free-lance contributions to local publications. Provides skills in fact gathering, editorial writing, story development, and establishment of visual relationships in the photoessay. Focuses on contemporary photojournalism.

**GRA 227 Sensitometry Fundamentals** 3 Credits  
Prerequisites: None. Covers the fundamental operation, principles, and equipment associated with reflection and transmission densitometer basics. Requires students to produce large format negatives in black and white and in color for the purpose of controlling densities through exposure and development.

**GRA 234 Special Problems in Advertising** 3 Credits  
Prerequisites: None. Covers advertising in the economy, broadcast regulations, advertising media, audience measurement, and the future of cable and pay television.

**HEA 101 Heating Fundamentals** 3 Credits  
Prerequisites: None. Introduces fundamentals applicable to the heating phase of air conditioning. Includes types of units, parts, basic controls, functions, and applications. Emphasizes practices, tools and meter uses, temperature measurement, heat flow, and tubing installation and connecting practices.



<b>HEA 103 Refrigeration I</b>	<b>3 Credits</b>
Prerequisites: None. Introduces compression systems used in mechanical refrigeration, including the refrigeration cycle. Introduces safety procedures and proper uses of tools used to install and service refrigeration equipment.	
<b>HEA 104 Heating Service</b>	<b>3 Credits</b>
Prerequisites: HEA 101 - Heating Fundamentals and TEC 113 - Basic Electricity. Covers procedures used to analyze mechanical and electrical problems encountered when servicing heating systems, including gas, oil, electric, and hydronic heating equipment. Considers electrical schematic and diagrams, combustion testing, venting and combustion air requirements, installation, and service procedures.	
<b>HEA 106 Refrigeration II</b>	<b>3 Credits</b>
Prerequisites: HEA 103 - Refrigeration I and TEC 113 - Basic Electricity. Continues Refrigeration I with further study of compressors, metering devices and an introduction to troubleshooting procedures. Includes clean-up procedures following compressor burn-out and analysis of how a single problem affects the rest of the system.	
<b>HEA 107 Duct Fabrication and Installation</b>	<b>3 Credits</b>
Prerequisites: advisor approval. Emphasizes reading blueprints common to the sheet metal trade, floor plans, elevations, section, detail, and mechanical plans. Requires students to develop a layout of an air conditioning system, layout of duct work and fittings and fabrication of these parts, including proper use of hand-tools, and shop equipment used to fabricate duct work and fittings.	
<b>HEA 201 Cooling Service</b>	<b>3 Credits</b>
Prerequisites: TEC 113 - Basic Electricity and HEA 103 - Refrigeration I. Covers procedures used to diagnose electrical control problems found in residential air conditioning and refrigeration systems, including 24-volt and line voltage controls such as defrost timers, defrost heaters, relays, and cold controls with emphasis on schematic and pictorial diagrams.	
<b>HEA 202 Electrical Circuits and Controls</b>	<b>3 Credits</b>
Prerequisites: HEA 101 - Heating Fundamentals, HEA 103 - Refrigeration I, and TEC 113 - Basic Electricity. Studies various kinds of heating, air conditioning, and refrigeration controls. Includes gas, oil, cooling and electric heat controls, thermostats and other kinds of variable controls such as humidistats, aquastats, and electronic thermostats and temperature controls. Covers operation of controls and how they are integrated into complex systems by using schematic and pictorial diagrams. Presents component troubleshooting and testing.	
<b>HEA 203 Heat Loss and Gain Calculation</b>	<b>3 Credits</b>
Prerequisites: advisor approval. Covers methods used in calculating building envelope heat loss and heat gain in sizing units for residential and light commercial applications. Discusses building construction techniques and energy consumption reduction methods.	
<b>HEA 204 Commercial Refrigeration</b>	<b>3 Credits</b>
Prerequisites: IDS 103 - Motors and Motor Controls, HEA 106 - Refrigeration II, and HEA 202 - Electrical Circuits and Controls. Examines air conditioning and refrigeration systems for commercial use, including medium- and low-temperature applications. Includes refrigeration accessories, metering devices, and advance control arrangements.	
<b>HEA 205 Heat Pump Systems</b>	<b>3 Credits</b>
Prerequisites: advisor approval. Provides an understanding of the different types of heat pumps available for use today. Familiarizes students with the refrigeration cycle as it applies to the heat pump systems. Provides students with the opportunity to draw, trace, and follow an electrical schematic of a heat pump with refrigerant. Includes selecting the proper heat pump, recording heat loss, and gain calculations for the space available. Provides instruction in mechanical components and in troubleshooting a non-functioning heat pump.	
<b>HEA 206 Advanced Cooling Service</b>	<b>3 Credits</b>
Prerequisites: HEA 201 - Cooling Service. Considers methods of troubleshooting electrical and mechanical components of air conditioning and refrigeration systems.	

**HEA 207 HVAC Codes** 3 Credits

Prerequisites: None. Study of state and local codes covering installation, repair, alteration, relocation, replacement and erection of heating, ventilation, cooling, and refrigeration systems. Includes job-related costs of material and equipment, labor, warranty, taxes, permits, and sub-contracts. Students will estimate service and maintenance contracts.

**HEA 208 Energy Management and Balancing** 3 Credits

Prerequisites: advisor approval. Deals with reduction in energy usage in a facility, operational and maintenance improvements, new building design standards, shut-down and consolidation, alternate energy resources, retrofitting existing buildings, and energy awareness. Includes practice in adjusting and setting fan speeds, dampers, and other air regulating devices.

**HEA 209 Psychrometrics/Air Distribution** 3 Credits

Prerequisites: advisor approval. Studies the properties of air during the operational variations of temperature and humidity. Discusses the atmospheric conditions and the impact of those conditions on the heating-cooling processes and the design of systems for residential and commercial structures. Includes the sizing and configurations of air delivery duct systems and system design methods.

**HEA 210 Alternative Energy Systems** 3 Credits

Prerequisites: advisor approval. Studies the magnitude of the energy available, the various methods used in collecting this energy, how to use it, and how to store it for heating and cooling work. Selects components of the systems, including collector cells sizing, pump sizing, pipe, and duct sizing and designing distribution systems. Reviews controls for systems. Studies operating costs and savings.

**HEA 211 Absorption Systems** 3 Credits

Prerequisites: HEA 206 - Advanced Cooling Service or equivalent in mechanical training and HEA 212 - Advanced HVAC Controls or equivalent in electrical training. Surveys special cooling systems with emphasis on the absorption cycle. Includes ammonia-water and lithium-bromide cycles, types of units, arrangements, parts, function of various parts, and applications of units into air conditioning systems in addition to diagnosis of service problems.

**HEA 212 Advanced HVAC Controls** 3 Credits

Prerequisites: HEA 202 - Electrical Circuits and Controls. Covers control systems beyond ordinary residential and single zone commercial applications. Includes solid state controls, zoning controls, modulating controls, low ambient controls, heat recovery and energy management controls, economizer controls, and pneumatic controls.

**HEA 213 Sales and Service Management** 3 Credits

Prerequisites: advisor approval. Encompasses the use of blueprints, specifications, AIA documents, application data sheets, bid forms and contracts in estimating materials and labor in the HVAC business. Includes advertising, direct labor, indirect labor, overhead, warranty overages, taxes, permits, subcontracts, margins, mark-ups, and profit. Provides students with the opportunity to estimate service contracts and study service organization, service procedures, record keeping, parts inventory control, and insurance liability.

**HEA 214 Applied Design** 3 Credits

Prerequisites: advisor approval. Provides students with the opportunity to design and lay out a complete HVAC system.

**HEA 215 Advanced Cooling Design** 3 Credits

Prerequisites: HEA 203 - Heat Loss and Gain Calculation. Applies fundamental principles of HVAC design, including psychrometrics, heat transfers, heating and cooling loads, and refrigeration principles. Other topics are equipment selection, distribution systems, energy management, and control systems. A semester project is required.

**HEA 220 Distribution Systems** 3 Credits

Prerequisites: advisor approval. Covers methods used in calculating building envelope heat loss and gain in sizing units for residential and light commercial applications. Studies the relationship of air properties to temperature and the design of systems for residential and light commercial structures. Includes the sizing and configurations of air delivery duct systems.

**HEA 221 Heat Pumps and Cooling Service** 3 Credits

Prerequisites: HEA 103 - Refrigeration I, HEA 106 - Refrigeration II, and TEC 113 - Basic Electricity. Covers procedures used to diagnose electrical control problems found in residential air-to-air, geothermal heat pump and cooling systems, including 24-volt and line voltage controls. Familiarizes students with the refrigeration cycle as it applies to the heat pump. Covers correct

charging procedures and sizing of heat pumps. Includes trouble shooting of heat pumps and cooling systems such as defrost timers, defrost heaters, relays, and cold controls with emphasis on schematic and pictorial diagrams.

#### **HHS 101 Medical Terminology**

**3 Credits**

Prerequisites: None. Addresses basic terminology required of the allied health professional. Presents Greek and Latin prefixes, as well as suffixes, word roots, and combining forms. Emphasizes forming a solid foundation for a medical vocabulary including meaning, spelling, and pronunciation. Includes medical abbreviations, signs, and symbols.

#### **HHS 102 Medical Law and Ethics**

**2 Credits**

Prerequisites: Demonstrated competency in reading through appropriate assessment or successful completion of Foundation reading coursework. Presents ethics of medicine and medical practice, as well as legal requirements and implications for allied health professions.

#### **HHS 103 Dosage Calculation**

**1 Credit**

Prerequisites: Demonstrated competencies in mathematics and reading or ENG 031 - Reading Strategies for College I and MAT 044 - Mathematics. Introduces the mathematical concepts required of the allied health professional to accurately administer medications.

#### **HHS 104 CPR and Basic Health Awareness**

**1 Credit**

Prerequisites: None. Provides students with information necessary to recognize the need for one- and two-person cardiopulmonary resuscitation (CPR) as it relates to adults, children, and infants. Requires students to safely perform CPR.

#### **HHS 106 Holistic Concepts and Skills**

**3 Credits**

Prerequisites: Demonstrated competency in ENG 024 - Introduction to College Writing I, and ENG 031 - Reading Strategies for College I or through appropriate assessment. Introduces the student to the holistic approach in the art and science of healthful living. The course content emphasizes the interrelatedness of the total person-body, mind, and spirit-in achieving the goals of therapeutic, rehabilitative, and maintenance roles. The student will identify and model methods of personal holistic wellness in society.

#### **HLT 125 Health Care Systems and Trends**

**3 Credits**

Prerequisites: None. Studies the health care industry emphasizing the systems approach to health care and the current trends facing the industry. Gives special attention to managed care organizations.

#### **HLT 225 Finance and Budgeting for Health Care**

**3 Credits**

Prerequisites: ACC 101 - Accounting Principles I. Importance is placed on the development and use of departmental budgets. Financial statements will be used to project future expenses and revenues for an organization and/or department. Emphasizes the reimbursement process for a managed care environment and purchasing procedures.

#### **HLT 226 Organizational Development in Health Care**

**3 Credits**

Prerequisites: BUS 105 - Principles of Management. Examines organizational structure in health care organizations, including traditional structures and re-engineering of the health care industry. Covers staff development, training, job analysis and design, and departmental staffing. Discusses medical ethics.

#### **HMS 101 Introduction to Human Services**

**3 Credits**

Prerequisites: None. Explores the history of human services, career opportunities, and the role of the human service worker. Focuses on target populations and community agencies designed to meet the needs of various populations.

#### **HMS 102 Helping Relationships Techniques**

**3 Credits**

Prerequisites: None. Examines the helping process in terms of skills, helping stages, and issues involved in a helping relationship. Introduces major theories of helping.

#### **HMS 103 Interviewing and Assessment**

**3 Credits**

Prerequisites: HMS 101 - Introduction to Human Services, HMS 102 - Helping Relationships Techniques, or permission of the program chair. Develops skills in interviewing and provides a base for students to build personal styles. Introduces a variety of assessment approaches and treatment planning. Utilizes case studies and recording exercises.

<b>HMS 104 Crisis Intervention</b>	<b>3 Credits</b>
Prerequisites: None. Provides beginning training for individuals presently working with people in crisis situations or planning to do so.	
<b>HMS 105 Introduction to Correctional Rehabilitation Services</b>	<b>3 Credits</b>
Prerequisites: None. Introduces the study of crime and criminals and how society is affected.	
<b>HMS 106 Physiology of Aging</b>	<b>3 Credits</b>
Prerequisites: None. Focuses on the physical changes and common pathologies associated with the aging process. Includes the psychological and social implications of changes for human behavior. Focuses on health promotion and disease prevention.	
<b>HMS 107 Human Services Topical Seminar</b>	<b>3 Credits</b>
Prerequisites: Approval of program chair. Discusses topics of current interest in human services. Focuses on special interest projects for students in human services. Utilizes field trips, guest speakers, audio-visual activities, and seminars.	
<b>HMS 108 Psychology of Aging</b>	<b>3 Credits</b>
Prerequisites: None. Covers the major behavioral changes in adulthood and aging.	
<b>HMS 109 Families in American Culture</b>	<b>3 Credits</b>
Prerequisites: None. Covers the impact of change on the role and function of the modern family, the nature of the socialization process and socio-economic, cultural and ethnic factors that nurture, or inhibit the family's capacity to function.	
<b>HMS 112 Recreation for Special Populations</b>	<b>3 Credits</b>
Prerequisites: None. Studies the nature and etiology of impairments including developmental disabilities, mental illness, physical disabilities and geriatrics, and their potential impact upon an individual's ability to participate in recreational activities. Explores techniques needed to conduct a recreation program which allows successful participation by an individual with a disability.	
<b>HMS 113 Problems of Substance Abuse in Society</b>	<b>3 Credits</b>
Prerequisites: None. Provides basic information about alcohol and drugs and the laws which pertain to their abuse. Explores current attitudes and practices which pertain to alcohol and drug use, misuse, and dependence.	
<b>HMS 114 Social Services in Long-Term Care</b>	<b>3 Credits</b>
Prerequisites: None. Provides practical and useful information about aging and institutionalization. Focuses on the role of social services within the long-term care facility.	
<b>HMS 115 Applied Behavioral Psychology</b>	<b>3 Credits</b>
Prerequisites: None. Studies the unique capacities and personal strengths of self and others. Emphasizes discovering, clarifying, and affirming individual potential for living more fully. Discusses the complex nature of human development, human behavior, and related social problems.	
<b>HMS 118 Introduction to Long-Term Care</b>	<b>3 Credits</b>
Prerequisites: None. Explores the history of health care provided outside the home and offers an overview of long-term health care facilities. Includes rules and regulations of nursing homes, resident rights, legislation, and physical plant requirements.	
<b>HMS 119 Interdisciplinary Team Management</b>	<b>3 Credits</b>
Prerequisites: None. Explores principles and relationships of the interdisciplinary team, the various departments which may compose the team, and the services each department provides.	
<b>HMS 120 Health and Aging</b>	<b>3 Credits</b>
Prerequisites: None. Provides holistic overview of the physical, psychological, and social needs of individuals who live in extended care facilities. Examines effective treatment modalities to meet the resident's various needs.	

**HMS 121 Issues of Long-Term Care****3 Credits**

Prerequisites: None. An overview of various issues to familiarize students with responsibilities of nursing home administrators. Management styles, models, quality circles, and personal improvements are covered.

**HMS 122 Introduction to Residential Treatment****3 Credits**

Prerequisites: None. Introduces information, skills, and attitudes necessary to become an effective worker in residential treatment. Explores basic developmental needs, planning and use of activities, and issues related to the team approach. Discusses and Demonstrates observation and recording of behavior.

**HMS 124 Activity Director Basic****6 Credits**

Prerequisites: None. Explores the philosophy and investigates the development of therapeutic activity programs for older persons. Focuses on activities which will meet the individual's physical, social, and emotional needs.

**HMS 125 Activity Director Internship I****2 Credits**

Prerequisites: HMS 124 - Activity Director Basic. Correlates with HMS 124 - Activity Director Basic and provides field work experience in all departments of a health care facility.

**HMS 130 Social Aspects of Aging****3 Credits**

Prerequisites: None. Covers major theories and patterns of aging in American society. Covers social institutions and cultural factors that affect the aging process.

**HMS 140 Loss and Grief****3 Credits**

Prerequisites: None. Provides practical and useful information for anyone who has experienced a loss. Addresses the problems of loss and grief and how to develop coping skills.

**HMS 150 Special Population Needs and Activities****3 Credits**

Prerequisites: None. Recognizes and utilizes social activities and recreation as a viable form of therapeutic intervention based on the client's limitations or special needs.

**HMS 160 Human Growth and Development****3 Credits**

Prerequisites: None. Introduces cognitive, social psychology theories of human development from the prenatal period through the adolescent years.

**HMS 201 Internship I****4 Credits**

Prerequisites: HMS 101 - Introduction to Human Services, HMS 102 - Helping Relationships Techniques, and HMS 103 - Interviewing and Assessment, or permission by program chairperson. Provides field work experience in an approved social, educational, law enforcement, corrections, or other community service organization. Requires 14 to 16 hours of work experience each week.

**HMS 202 Internship II****4 Credits**

Prerequisites: HMS 101 - Introduction to Human Services, HMS 102 - Helping Relationship Techniques, HMS 103 - Interviewing and Assessment, or permission by program chairperson. Continues Internship I. Requires 14 to 16 hours of work experience each week.

**HMS 203 Internship Seminar I****3 Credits**

Prerequisites: HMS 101 - Introduction to Human Services, HMS 102 - Helping Relationships Techniques, HMS 103 - Interviewing and Assessment, or permission by program chairperson. Permits small group discussion and analysis of the human services practicum experience. Includes special learning objectives related to the kind of work students do after completing the program.

**HMS 204 Internship Seminar II****3 Credits**

Prerequisites: HMS 101 - Introduction to Human Services, HMS 102 - Helping Relationships Techniques, HMS 103 - Interviewing and Assessment, or permission by program chairperson. Continues Internship Seminar I with different learning objectives. Relates objectives to the work the student will do after completion of the program.



**HMS 205 Behavioral/Reality Techniques** **3 Credits**

Prerequisites: HMS 101 - Introduction to Human Services, HMS 102 - Helping Relationships Techniques, HMS 103 - Interviewing and Assessment, or permission by program chairperson. Focuses on theories of behavioral and reality approaches. Develops understanding of terms and practical applications of the behavioral and reality approaches used in working with people.

**HMS 206 Group Process and Skills** **3 Credits**

Prerequisites: HMS 101 - Introduction to Human Services, HMS 102 - Helping Relationship Techniques, HMS 103 - Interviewing and Assessment, or permission by program chairperson. Studies group dynamics, issues, and behavior. Includes group functioning and leadership, guidelines on working effectively with a co-leader, and practical ways of evaluating the group process.

**HMS 207 Program Planning/Policy Issues** **3 Credits**

Prerequisites: HMS 101 - Introduction to Human Services, HMS 102 - Helping Relationship Techniques, HMS 103 - Interviewing/Assessment, or permission by program chairperson. Deals with the components of administration of human service agencies. Addresses practitioner skills needed by administrators or supervisors. Discusses social policy issues and impact on human services.

**HMS 208 Treatment Models of Substance Abuse** **3 Credits**

Prerequisites: HMS 101 - Introduction to Human Services, HMS 102 - Helping Relationship Techniques, HMS 103 - Interviewing/Assessment, or permission by program chairperson. Describes the various treatment models used with chemically dependent clients. Discusses intervention and treatment models for chemical dependency and their role in the recovery process.

**HMS 209 Counseling Issues** **3 Credits**

Prerequisites: HMS 101 - Introduction to Human Services, HMS 102 - Helping Relationship Techniques, HMS 103 - Interviewing/Assessment, or permission by program chairperson. Explores practice strategies for counselors of chemically dependent clients.

**HMS 210 Co-Dependency** **3 Credits**

Prerequisites: HMS 101 - Introduction to Human Services, HMS 102 - Helping Relationship Techniques, HMS 103 - Interviewing/Assessment, or permission by program chairperson. Presents definitions of co-dependency and issues related to it. Teaches skills and techniques to confront co-dependent behavior.

**HMS 215 Juvenile Delinquency** **3 Credits**

Prerequisites: HMS 101 - Introduction to Human Services, HMS 102 - Helping Relationship Techniques, HMS 103 - Interviewing/Assessment, or permission by program chairperson. Provides an overview of the concepts, definitions, and measurements of juvenile delinquency. Explores various theories on the causes of delinquency. Looks at the role of environmental influences (peers, gangs, school, drugs, etc.) contributing to delinquency. Discusses the history and philosophy of the juvenile justice system as well as ways to control and treat juvenile delinquents.

**HMS 220 Legal Aspects** **3 Credits**

Prerequisites: HMS 101 - Introduction to Human Services, HMS 102 - Helping Relationship Techniques, HMS 103 - Interviewing/Assessment, or permission by program chairperson. Provides an overview of the legal and ethical aspects in the field of human services with implications for the human services worker. Includes liability, confidentiality and privilege, records and rights of clients, due process, and equal protection in terms of staff and client, discrimination, and witnessing.

**HMS 224 Activity Director Advanced Management** **6 Credits**

Prerequisites: HMS 101 - Introduction to Human Services, HMS 102 - Helping Relationship Techniques, HMS 103 - Interviewing/Assessment, HMS 124 - Activity Director Basic, or permission by program chairperson. Provides skills needed for the management and supervision of an activity department in a health care facility.

**HMS 225 Activity Director Internship II** **2 Credits**

Prerequisites: HMS 101 - Introduction to Human Services, HMS 102 - Helping Relationship Techniques, HMS 103 - Interviewing/Assessment, HMS 125 - Activity Director Internship I, or permission by program chairperson. Correlates with Activity Director Advanced Management and provides fieldwork experience in all departments of a health care facility.



- HMS 240 Rehabilitation Process: Probation and Parole** **3 Credits**  
 Prerequisites: HMS 101 - Introduction to Human Services, HMS 102 - Helping Relationships Techniques, and HMS 103 - Interviewing/Assessment. Provides an understanding of probation and parole as an integral part of the criminal justice system with special emphasis on current and future trends in this area. Explores the role of community corrections and its impact on the role of probation and parole in our society in view of the increase in the number of offenders.
- HMS 280 Co-op/Internship** **1-6 Credits**  
 Prerequisites: HMS 101 - Introduction to Human Services, HMS 102 - Helping Relationship Techniques, and HMS 103 - Interviewing/Assessment. The student will work at a job site that is specifically related to his/her career objectives. This course is designed to provide on-the-job experience while earning credit toward an associate degree.
- HMS 281-293 Special Topics in Human Services** **1-5 Credits**  
 Prerequisites: HMS 101 - Introduction to Human Services, HMS 102 - Helping Relationship Techniques, and HMS 103 - Interviewing/Assessment. Provides students with the opportunity to experience seminars, workshops and other instructional activities on topics of interest that reinforce the concepts presented in their program area.
- HMT 100 Occupational Safety and Health Administration (OSHA) Regulations** **3 Credits**  
 Prerequisites: None. Provides a study of the U.S. Occupational Safety and Health Administration's (OSHA) regulations which protect workers from exposure to occupational hazards. Concentrates on researching, interpreting, summarizing, and applying the OSHA regulations for workers who handle hazardous materials.
- HMT 104 Environmental Toxicology** **3 Credits**  
 Prerequisites: None. Reviews research conducted to determine the systematic health effects of exposures to chemicals. Includes determination of risk factors, routes of entry of hazardous materials, and their effects on target organs, acute, and chronic effects and control measures.
- HMT 120 Hazard Communication Standard** **3 Credits**  
 Prerequisites: None. Provides instruction concerning the development and implementation of a hazard communication program for employees. Provides experience in conducting a chemical inventory, interpreting material safety data sheets (MSDSs), developing a written hazard communication program that complies with 29CFR 1910.1200, and conducting an effective hazard communication training program.
- HMT 200 Environmental Protection Agency (EPA) Regulations** **3 Credits**  
 Prerequisites: HMT 100 - Occupational Safety and Health Administration (OSHA) Regulations. Provides a detailed study of the U.S. Environmental Protection Agency (EPA) regulations pertaining to hazardous waste management, with an emphasis on the requirements of the Resource Conservation and Recovery Act (RCRA), the Comprehensive Environmental Response, Compensation, Liability Act (CERCLA) and the Superfund Amendments and Reauthorization Act (SARA).
- HMT 201 Contingency Planning** **3 Credits**  
 Prerequisites: None. Teaches students to develop an emergency response contingency plan for a facility or community. Includes analyzing the hazards, writing and implementing the contingency plans, training employees for an emergency, and evaluating the effectiveness of the contingency plan.
- HMT 203 Sampling Procedures** **3 Credits**  
 Prerequisites: HMT 100 - Occupational Safety and Health Administration, HMT 120 - Hazard Communication Standard, and HMT 200 - Environmental Protection Agency Regulations. Introduces students to a variety of sampling procedures used in industrial settings and for emergency response. Includes sampling and monitoring devices, industrial hygiene monitoring, water and waste stream monitoring, outside air sampling, soil sampling and radiation. Emphasizes collecting and preserving representative samples, interpreting laboratory results and complying with relevant federal regulations.
- HMT 205 Department of Transportation (DOT) Regulations** **3 Credits**  
 Prerequisites: HMT 100 - Occupational Safety and Health Administration. Provides a detailed study of the U.S. Department of Transportation (DOT) regulations. Introduces certain Nuclear Regulatory Commission and Environmental Protection Agency regulations pertinent to hazardous materials transportation. Includes problems and case studies in which students identify and interpret applicable DOT regulations and recommend compliance strategies. Provides practical understanding of DOT issues through interviews with local professionals in hazardous materials handling.

**HMT 220 Hazardous Materials Recovery, Incineration and Disposal****3 Credits**

Prerequisites: CHM 101 - Chemistry I. Explains methods of recovery, incineration and/or disposal of hazardous waste. Includes contracting with qualified disposal organizations, obtaining permits and ensuring regulatory compliance of hazardous waste.

**HMT 240 Incident Management****3 Credits**

Prerequisites: HMT 100 - Occupational Safety and Health Administration or advisor approval. Covers the emergency response components of HAZWOPER (Hazardous Waste Operations and Emergency Response), specifically 29 CFR 1910.120 (q). Through case studies, students will analyze and apply the theory of the Incident Command System (ICS) from discovery of a hazardous substance release to decontamination and appreciate the roles of all HAZMAT team members from First Responder Awareness Level to the On-Scene Incident Commander.

**HOS 101 Sanitation and First Aid****3 Credits**

Prerequisites: None. Helps students learn basic principles of sanitation and safety in order to maintain a safe and healthy food service environment. Presents the laws and regulations related to safety, fire, and sanitation and how to adhere to them in the food service operation.

**HOS 102 Basic Foods Theory and Skills****3 Credits**

Prerequisites: None. Students learn the fundamentals of food preparation, service procedures, and sanitation and safety practices in the food service business. They will use proper operation techniques for equipment. This course also provides a background and history of the hospitality industry and introduces the student to the broad spectrum of hospitality/food service organizations and career opportunities. Students will be familiarized with the organizational structure and basic functions of departments.

**HOS 103 Soups, Stocks and Sauces****3 Credits**

Prerequisites: None. Concentrates on the four major stocks and the soups that are derived from them. Time will be given to help develop the necessary skills to prepare food using any one of the 14 major cooking methods.

**HOS 104 Nutrition****3 Credits**

Prerequisites: None. Introduces the characteristics, functions, and food sources of the major nutrient groups and how to maximize nutrient retention in food preparation and storage. Students will be made aware of nutrient needs throughout the life cycle and to apply those principles to menu planning and food preparation.

**HOS 105 Introduction to Baking****3 Credits**

Prerequisites: None. Presents fundamentals of baking science, terminology, ingredients, weights and measures, yeast goods, pies, cakes, cookies and quick breads, and use and care of equipment. Emphasizes sanitation, hygienic work habits, and conformity with health regulations.

**HOS 106 Pantry and Breakfast****3 Credits**

Prerequisites: HOS 103 - Soups, Stocks, and Sauces. Covers the techniques and skills needed in breakfast cookery, as well as insight into the pantry department. Various methods of preparation of eggs, pancakes, waffles, and cereals will be discussed. Students will receive instruction in salad preparation, salad dressings, hot and cold sandwich preparation, garnishes, and appetizers.

**HOS 107 Hospitality Computer Systems****3 Credits**

Prerequisites: None. Provides an overview of the information needs of lodging properties and food service establishments and addresses essential aspects of computer systems and computer based property management systems for both front office and back functions. Focuses on computer-based restaurant management systems for both service-oriented and management-oriented functions.

**HOS 108 Table Service****3 Credits**

Prerequisites: None. Provides students with practical knowledge and skills of various types of service operations. The student will gain knowledge and an appreciation of the relationship between "front" and "back" of the house. Emphasis is also placed on management skills needed for bar and dining room management.

<b>HOS 109 Hospitality Purchasing</b>	<b>2 Credits</b>
Prerequisites: None. Studies in detail major groups of food purchased by quantity buyers including fresh fruits and vegetables, dairy products, meats and seafood, processed products, beverages and non-food items. Outlines the essentials of effective food and beverage control while establishing systems for sale values for food and beverages.	
<b>HOS 114 Hospitality Organization and Administration</b>	<b>3 Credits</b>
Prerequisites: None. Analyzes management's functions and responsibilities as they pertain to the hospitality industry. Appropriate styles of hospitality leadership are covered.	
<b>HOS 115 Diet Therapy</b>	<b>4 Credits</b>
Prerequisites: None. Presents to food services employees or prospective employees of health care institutions knowledge about basic nutrition, therapeutic diets, and menu planning; students use knowledge by writing menus. Practicum required as an integral part of the course.	
<b>HOS 116 Dietary Management I</b>	<b>4 Credits</b>
Prerequisites: None. Includes specifications, storage, purchasing and storage, feeding in emergencies, sanitation, and safety in a format designed for food service required as an integral part of the course.	
<b>HOS 117 Dietary Management II</b>	<b>4 Credits</b>
Prerequisites: None. Includes specifications, storage, purchasing and preparation of food, recipe standardization, kitchen designs and delivery systems in format designed for food service employees or employees of health care institutions. Practicum required as an integral part of the course.	
<b>HOS 118 Resident Clinical Assessment Practicum</b>	<b>4 Credits</b>
Prerequisites: None. Introduces the student to the residential care environment and provides the opportunity for the student to learn how to complete residential nutritional status assessments, evaluate resident nutritional needs, complete the required resident evaluation instruments and to write appropriate nutrition care.	
<b>HOS 128 Total Quality Management (TQM) In Restaurant Operations</b>	<b>3 Credits</b>
Prerequisites: None. Provides students with practical knowledge and skills of restaurant operations through TQM. Emphasis is placed on forming an organizational team from traditional "front and back-of-the house" roles. In addition, various types of service for food and beverages are taught to demonstrate the versatility of the industry.	
<b>HOS 141 Introduction to Casino Operations</b>	<b>3 Credits</b>
Prerequisites: None. Concentrates on the basic rules, fundamentals, and procedures of all the revenue producing areas of a modern casino. Covers table games, slots, race and sports betting, bingo, and keno. Includes an overview of other pertinent casino areas such as casino cage and surveillance. Introduces casino math, game operations, and protection.	
<b>HOS 201 Hospitality Organization and Human Resources Management</b>	<b>3 Credits</b>
Prerequisites: None. Teaches the necessary skills for proper recruiting, staffing, training and managing employees at various levels in hospitality careers. Emphasizes the organization's evolutionary and problem solving process.	
<b>HOS 202 Garde Manger</b>	<b>3 Credits</b>
Prerequisites: HOS 106 - Pantry and Breakfast. Illustrates basic garde manger principles and the functions and duties of the garde manger department as they relate and integrate with other kitchen operations. Students will focus on introduction to specialty work which includes ice carving, artistic center pieces, and buffet decorations. They will demonstrate equipment and garde manger area planning.	
<b>HOS 203 Menu, Design, and Layout</b>	<b>2 Credits</b>
Prerequisites: None. Provides the skills needed to apply the principles of menu planning to various types of facilities and services. This course covers menu layout, selection, and development and pricing structures.	
<b>HOS 204 Food and Beverage Cost Control</b>	<b>2 Credits</b>
Prerequisites: None. Introduces mathematical principles applied to the food service industry and uses skills to complete food related tasks.	

**HOS 203 Food and Beverage Cost Control Applications****1 Credit**

Prerequisites: None. Covers the principles and procedures involved in an effective system of room, food, beverage, labor, and sales income. Emphasizes the development and use of standards in the calculation of cost.

**HOS 206 Fundamentals of the Catering Business****3 Credits**

Prerequisites: HOS 101 - Sanitation and First Aid and FST 102 - Food Service Equipment Operations. Introduces the fundamentals of owning and operating a small catering business including personal, legal, and operational requirements.

**HOS 207 Advanced Baking and Chocolates****3 Credits**

Prerequisites: None. Covers classical French and European desserts. Includes the preparation of goods such as Napoleons, Gateaux St. Honore, petits fours and petits fours sec, ganaches, pastry creams and fillings, sauces, flans and tarts and European sponges. Includes tempering of chocolates, molding and chocolate plastique, preparation of truffles, pastilage and marzipan, short doughs, and meringues. Requires students to submit three pieces from the American Culinary Federation approved individual pastry display category to be judged as a final practical exam.

**HOS 214 Hospitality Law and Security****3 Credits**

Prerequisites: None. Provides an awareness of the rights and responsibilities that the law grants to or imposes upon a hotel keeper. Illustrates the possible consequences of failure to satisfy legal obligations.

**HOS 216 Hospitality Marketing and Group Sales****3 Credits**

Prerequisites: None. Presents a practical understanding of the operating statement and precisely where, how, and why the sales effort fits into total earnings and profit. Teaches how to measure and gauge accurately the precise worth of every type of business in advance.

**HOS 221 Catering Administration****3 Credits**

Prerequisites: HOS 101 - Sanitation and First Aid, CUL 110 - Meat Cutting, HOS 204 - Food and Beverage Cost Control, and CUL 202 - Specialized Cuisine. Provides instruction in the fundamentals of catering, including the business of supplying food, goods and organized service for public and private functions. Includes staffing, equipment, transportation, contracting, special arrangements, beverage service and menu planning. Demonstrate techniques of setting up banquets and buffets. Requires students to plan, budget, cost, test recipes and formats, plan decor, service and entertainment for catered events. nagerial aspects of Roulette.

**HOS 280 Co-op/Internship/Externship/Practicum****3 Credits**

Prerequisites: None. Requires students to work at a job site that is specifically related to their career objectives. Provides on-the-job experience while earning credit toward an associate degree.

**HOS 281-293 Special Topics in Hospitality Administration****1-5 Credits**

Prerequisites: None. Provides students with the opportunity to experience seminars, workshops and other instructional activities on topics of interest that reinforce the concepts presented in their program area.

**HRM 202 Front Office****3 Credits**

Prerequisites: None. Presents a systematic approach to front office procedures, detailing the flow of business through a hotel beginning with the reservation process and ending with billing and collection procedures within the context of the overall operation of a hotel. Examines front office management, the process of handling complaints, and concerns regarding hotel safety and security.

**HRM 206 Supervisory Housekeeping****3 Credits**

Prerequisites: None. Introduces the fundamentals of housekeeping management. Emphasis is placed on employee training, record-keeping, health and safety cost control, and overall responsibilities.

**IDS 102 Introduction to Print Reading****3 Credits**

Prerequisites: None. Provides an introduction to reading and interpreting machine shop symbols, welding blueprints, and working drawings used in trades and crafts. Focuses on dimension, shape, fabrication, and assembly. Applies basic mathematics to the solution of print and performance problems.

**IDS 103 Motors and Motor Controls****3 Credits**

Prerequisites: TEC 113 - Basic Electricity. Provides a complete understanding of all types of electric motors, extending from the small shaded pole fan motors to the large three-phase motors. Includes motor theory magnetism and how it affects motor rotation. Provides in-depth study of motor starting components and protective devices for motor circuits. Includes heat dissipation from a motor, motor slippage, how motors are wired to obtain different speeds, and capacitors and how they affect a motor circuit.

**IDS 104 Fluid Power Basics****3 Credits**

Prerequisites: MAT 050 - Basic Algebra or advisor approval. Introduces the student to fluid power principles and components. Teaches basic circuit design, symbols, and schematic diagrams to build a foundation for career work in fluid power technology.

**IDS 114 Introductory Welding****3 Credits**

Prerequisites: None. Provides basic skills and fundamental knowledge in oxyacetylene and shielded metal welding for maintenance welders, auto service and body technicians, and individuals in the mining industry. Emphasizes industry welding practices and detailed study of techniques used in all weld positions. Covers brazing and flame cutting and electrode selection and uses. Emphasizes safe practices in welding, cutting, and shielded metal arc.

**IDS 281-293 Special Topics in Industrial Technology****1-5 Credits**

Prerequisites: None. Provides students with the opportunity to experience seminars, workshops, and other instructional activities on topics of interest that reinforce the concepts presented in their program area.

**ILT 101 Industrial Laboratory Techniques****3 Credits**

Prerequisites: None. Deals with basic skills needed in the industrial laboratory such as safety, identification, care, and operation of basic laboratory equipment including pH meters, spectrophotometers, glassware, and definition and preparation of reagents. Includes laboratory exercises in the use of selected equipment.

**ILT 201 Industrial Instrumentation and Techniques I****3 Credits**

Prerequisites: ILT 101 - Industrial Laboratory Techniques and CHM 101 - Chemistry I. Addresses theoretical aspects of industrial laboratory instrumentation, including gas and liquid chromatography (GC and LC), high performance liquid chromatography (HPLC), infra-red (IR) spectrophotometry and atomic absorption (AA). Presents theories and laws that govern the way instruments operate. Includes student experimentation on various analytical instruments.

**ILT 202 Industrial Instrumentation and Techniques II****3 Credits**

Prerequisites: ILT 201 - Industrial Instrumentation and Techniques I. Continues the theoretical study of ILT 201 by addressing industrial applications of laboratory instrumentation, including gas and liquid chromatography (GC and LC), high performance liquid chromatography (HPLC), infra-red (IR) spectrophotometry and atomic absorption (AA). Presents automation techniques, including sampling, data collection, and analysis. Covers the laws that govern the way instruments operate. Includes student experimentation on various analytical instruments.

**ILT 203 Environmental Monitoring****3 Credits**

Prerequisites: advisor approval. Deals with aspects of environmental pollution, providing a realistic and objective view of pollution problems. Includes the role of technology in the identification of environmental pollution.

**ILT 205 Introduction to Technology****3 Credits**

Prerequisites: advisor approval. Reviews disciplines comprising scientific and engineering fields of study. Covers physics, chemistry, biology, environmental science, civil, mechanical, electrical, and industrial engineering. Introduces theory, principles, and practices related to the work of a scientific or engineering assistant/aide. Covers safety, professional ethics, and use of the scientific calculator/computer as a scientific and engineering tool.

**ILT 206 Food and Drug Analysis****3 Credits**

Prerequisites: advisor approval. Examines the food processing industry. Includes various analytical techniques and quality control standards utilized by the food industry. Includes classification of drugs and various methods of purification. Covers instruments and procedures used to monitor the quality and quantity of the composition of a product.



**ILT 217 Wastewater Analysis****3 Credits**

Prerequisites: advisor approval. Deals with the chemical and biological analysis of wastewater. Major pollutants of water are determined and quantified. The wastewater treatment steps are discussed to determine ideal lab sampling locations. Various wastewater tests such as BOD's, COD's, sedimentation rates and biological examinations are performed.

**IMT 105 Heating and Air Conditioning Basics****3 Credits**

Prerequisites: None. Presents fundamentals of heating and compression systems used in mechanical refrigeration and air conditioning. Includes combustion process, heat flow, temperature measurement, gas laws, heating and refrigeration cycles, and components used in systems. Introduces basic mechanical service procedures used in industry.

**IMT 106 Millwright I****3 Credits**

Prerequisites: advisor approval. Introduces the proper use of hand and power tools and measuring instruments in carpentry, blacksmithing, rigging and equipment, machinist, and general shop. Includes structural steel and fabricating terms.

**IMT 107 Preventive Maintenance****3 Credits**

Prerequisites: advisor approval. Focuses on detecting and correcting potential trouble spots and scheduling routine inspections with checklists. Studies five essential forms of preventive maintenance: equipment record, checklist, inspection schedule, inspection report, and equipment cost record.

**IMT 108 Measurements and Calibration****3 Credits**

Prerequisites: advisor approval. TEC 113 - Basic Electricity. Provides instruction in the purpose, function, and application of oscilloscopes and related instruments.

**IMT 110 Coupling and Alignment****3 Credits**

Prerequisites: None. Introduces the concepts of correct alignment of industrial process machinery. Provides instruction in troubleshooting and repair of coupled machines.

**IMT 111 Rigging****3 Credits**

Prerequisites: None. Introduces the proper techniques of moving industrial machinery and equipment. Emphasis is placed on proper installation, inspection, safety requirements, and load calculation.

**IMT 112 Sheet Metal Layout and Design****3 Credits**

Prerequisites: None. Examines the procedures used to layout sheet metal components. Presents the proper use of hand and machine tools to fabricate sheet metal projects.

**IMT 120 Metallurgy Fundamentals****3 Credits**

Prerequisites: None. Studies the fundamentals of thermodynamics and reactions occurring in metals subjected to various kinds of heat treatment. Includes classification and properties of metals, chemical and physical metallurgy, theory of alloys, heat treatment principles as applied to ferrous and non-ferrous materials, test to determine uses, heat treatment for steels, special steels, and cast iron, powder metallurgy, and use of gas and electric furnaces and their controls.

**IMT 122 Electrical Wiring Fundamentals****3 Credits**

Prerequisites: None. Covers National Electrical Code and its relationship to residential and commercial wiring. Includes mechanical installation of hardware, metering equipment, lights, switches, and design. Discusses tool use and materials selection.

**IMT 201 Fluid Power Systems****3 Credits**

Prerequisites: IDS 104 - Fluid Power Basics. Introduces the student to more complex fluid power circuits. Requires students to design, analyze, and troubleshoot complex circuits using schematic diagrams. Studies detailed construction of typical industrial fluid power components. Teaches students to disassemble and evaluate fluid power components in the lab.

**IMT 203 Machine Maintenance/Installation****3 Credits**

Prerequisites: None. Examines procedures for the removal, repair, and installation of machine components. Analyzes methods of installation, lubrication practices, and maintenance procedures for industrial machinery. Presents techniques for calibration and repair of electro-mechanical devices and practice in computations pertaining to industrial machinery.



**IMT 205 Programmable Controllers I****3 Credits**

**Prerequisites:** IDS 103 - Motors and Motor Controls or IMT 207 - Electrical Circuits or advisor approval, TEC 104 - Computer Fundamentals for Technology. Introduces the basic theory, operation, and programming of programmable controllers. Includes pilot control devices, circuit layouts, industrial schematics, relay logic, reduced voltage starters and multi-speed controllers. Covers static control systems. Demonstrate with programming examples, set-up examples and troubleshooting, as well as PLC timing, counting, arithmetic, and logic.

**IMT 207 Electrical Circuits****3 Credits**

**Prerequisites:** IDS 103 - Motors and Motor Controls, MAT 121 - Geometry-Trigonometry or advisor approval, TEC 113 - Basic Electricity. Provides fundamentals of single- and three-phase alternating current, including parallel circuits, resistance, inductance, capacitance, switching, fusing, current requirements, transformer applications, and motors and motor controls. Covers the basics of mechanical and electrical installations, emphasizes tool use and material selection, and electrical troubleshooting diagnosis and repair.

**IMT 210 Pumps****3 Credits**

**Prerequisites:** IDS 104 - Fluid Power Basics. Covers the construction and operation of centrifugal, reciprocating, and rotary pumps and their components. Includes procedures of troubleshooting, installation, and maintenance.

**IMT 211 Advanced Industrial Mechanics I****3 Credits**

**Prerequisites:** IDS 103 - Motors and Motor Controls, IMT 122 - Electrical Wiring Fundamentals, IMT 201 - Fluid Power Systems, IMT 203 - Machine Maintenance/Installation, and PHY 101 - Physics I. Examines the operation and design of mechanical systems, including belt drives, chain drives, gear boxes, bearings, and variable speed drives. Includes the proper use of portable power tools and the study of different materials.

**IMT 212 Advanced Industrial Mechanics II****3 Credits**

**Prerequisites:** IMT 211 - Advanced Industrial Mechanics I. Continues Advanced Industrial Mechanics I with troubleshooting of the various mechanical drive systems. Includes the study of lubrication, seals, industrial pumps, steam distribution systems, and HVAC systems.

**IMT 213 Pipe Fitting Basics****3 Credits**

**Prerequisites:** IDS 102 - Introduction to Print Reading. Acquaints the maintenance technician with a basic foundation and pipe fitting skills necessary to make repairs or new pipe layout. Includes determination of the type and quantity of material needed to complete a task and joining those materials in the proper manner with a minimum of supervision.

**IVY 100 Prior Learning Assessment****3 Credits**

**Prerequisites:** None. This course provides students an opportunity to document and present their college level learning which has resulted from their work/life experience. At the conclusion of this course, students will submit a complete learning portfolio which consists of a request for college credits, along with a detailed description of college level competencies for each course, and documentation to support their request.

**LEG 101 Introduction to Paralegal Studies****3 Credits**

**Prerequisites:** None. Introduces the beginning student to the general concepts of the legal and paralegal fields. Topics include the American legal system, legal analysis and research, legal ethics and professional responsibility, and a survey of the major procedural and substantive areas of the law such as crimes, torts, contracts, and property law.

**LEG 102 Legal Research and Writing****3 Credits**

**Prerequisites:** None. Includes the study and use of legal research tools such as digests, loose-leaf services, reporters, statutory compilations, and forms books. Presents legal writing format and methodology through practical application in drafting memoranda, correspondence, and selected forms. Emphasizes shepardizing and proper case citation skills.

**LEG 103 Civil Procedures****3 Credits**

**Prerequisites:** None. Includes the study of selected Indiana trial rules and miscellaneous local rules. Presents filing requirements, calculation of deadlines, and certain pretrial techniques.

**LEG 104 Torts****3 Credits**

**Prerequisites:** None. Includes a survey of the law of comparative negligence, product liability, defamation, false arrest, and other civil wrongs, including knowledge of the elements of such causes of action.

<b>LEG 105 Business Associations and Transactions</b> Prerequisites: None. Includes the study of various business structures and the formalities required for such structures. Surveys partnership, agency, and corporation law.	<b>3 Credits</b>
<b>LEG 106 Torts and Claims Investigation</b> Prerequisites: None. Studies witness interview techniques, preservation of evidence, organizational skills, and alternative methods of gathering facts. Emphasizes professional client intake and communication skills.	<b>3 Credits</b>
<b>LEG 107 Contracts and Commercial Law</b> Prerequisites: None. Surveys contract law and the Uniform Commercial Code. Presents special statutes regarding state unfair trade practices, consumer deception, and consumer rights.	<b>3 Credits</b>
<b>LEG 108 Property Law</b> Prerequisites: None. Includes a survey of the law of real and personal property. Gives practical exposure to title searches, loan documentation, zoning requirements, financing statements, leases, and deeds.	<b>3 Credits</b>
<b>LEG 202 Advanced Trial Procedures</b> Prerequisites: LEG 103 - Civil Procedures. Studies the Indiana Rules pertaining to actual trial. Reviews the discovery process and its tools. Presents skills such as organizing and retrieving documents, taking witness statements, and summarizing, indexing, and scheduling depositions. Surveys trial notebook preparation.	<b>3 Credits</b>
<b>LEG 203 Law Office Management and Technology</b> Prerequisites: CIS 101 - Introduction to Microcomputers, LEG 102 - Legal Research and Writing. Includes a survey of software support available to the law practitioner, such as litigation support and estate planning support. Presents the availability and use of research databases such as Dialog, Nexis, Lexis, and Westlaw.	<b>3 Credits</b>
<b>LEG 204 Advanced Legal Writing</b> Prerequisites: LEG 102 - Legal Research and Writing. Develops and enhances legal writing abilities with a focus on the relationship of legal writing to the legal process and the basics of technical writing with emphasis on the theoretical and practical applications of legal communications.	<b>3 Credits</b>
<b>LEG 209 Family Law</b> Prerequisites: None. Surveys the law of dissolution, custody, child support and visitations, marriage, and adoption. Presents financial declaration forms, client intake, Marion County Child Support Guidelines, and available social services.	<b>3 Credits</b>
<b>LEG 210 Wills, Trusts, and Probate</b> Prerequisites: None. Includes a survey of the law of estates, wills, probate, and guardianship, as well as intestate succession. Presents preparation of probate and administration forms, asset inventories and valuation, certain tax forms, and accounting.	<b>3 Credits</b>
<b>LEG 211 Criminal Law</b> Prerequisites: LEG 103 - Civil Procedures. Surveys Indiana criminal statutes and selected federal criminal laws. Emphasizes investigative and administrative skills.	<b>3 Credits</b>
<b>LEG 212 Bankruptcy Law</b> Prerequisites: None. Includes a survey of the Federal Bankruptcy Act. Stresses skills necessary to accumulate personal financial information, compile initial schedules, collect and organize data for first meeting of creditors, complete proofs of claim, and pursue certain creditor's rights.	<b>3 Credits</b>
<b>LEG 280 Co-op/Internship</b> Prerequisites: None. Requires students to work at a job site that is specifically related to their career objectives. Provides on-the-job experience while earning credit toward an associate degree.	<b>1-6 Credits</b>
<b>LEG 281-293 Special Topics in Paralegal</b> Prerequisites: None. Provides students with the opportunity to experience seminars, workshops, and other instructional activities on topics of interest that reinforce the concepts presented in their program area.	<b>1-5 Credits</b>

**MEA 102 First Aid and CPR****2 Credits**

Prerequisites: None. Provides students with information necessary to recognize emergency situations, know the proper course of action with different types of emergencies, and apply appropriate first aid, including CPR.

**MEA 113 Pharmacology****3 Credits**

Prerequisites: ANP 101 - Anatomy and Physiology I. Discusses the most common medications in current use with emphasis on classifications, uses, routes of administration, dosages, interactions, incompatibilities, and side effects. Emphasizes the 50 most commonly prescribed drugs listed in Pharmacy Times. Addresses special precautions, legal aspects, patient education, and preparation and administration of medications.

**MEA 114 Medical Assisting Laboratory Techniques****3 Credits**

Prerequisites: ANP 101 - Anatomy and Physiology I. Prepares student to perform various basic laboratory procedures, including preparation of patients, collecting and preparing appropriate specimens, and expected norms of laboratory test results. Includes current safety and quality control standards.

**MEA 115 Medical Insurance****2 Credits**

Prerequisites: None. Provides an overview of medical insurance programs and skills developed in handling insurance forms, CPT and ICD-9-CM Coding and reports as applied to the medical office.

**MEA 120 Medical Assisting Clinical Externship****3 Credits**

Prerequisites: MEA 133 - Clinical Theory and MEA 134 - Clinical Skills Lab. Provides the opportunity to discuss and perform clinical procedures under supervision, with learning experiences obtained in selected physicians' offices, clinics, or hospitals.

**MEA 121 Medical Assisting Administrative Externship****3 Credits**

Prerequisites: MEA 115 - Medical Insurance, MEA 130 - Medical Office Administration, MEA 131 - Medical Financial Management, MEA 132 - Computer Concepts in the Medical Office, and MEA 135 - Medical Typing and Transcription. Provides opportunities to observe, perform, and discuss various administrative competencies under supervision, with learning experiences obtained in selected physicians' offices, clinics, or hospitals.

**MEA 130 Medical Office Administration****2 Credits**

Prerequisites: None. Provides an understanding of the administrative duties and responsibilities pertinent to medical offices. Develops communications skills specifically directed toward a medical office and the role of the professional medical assistant as a member of the health care team. Includes instruction in medical correspondence and records, case histories of patients, filing, telephone procedures, appointment scheduling, receptionist duties and processing mail. Includes development of desirable personality traits, interpersonal relationships, and attitudes within the medical office.

**MEA 131 Medical Financial Management****3 Credits**

Prerequisites: None. Provides instruction in medical office financial administration, bookkeeping, and materials management.

**MEA 132 Computer Concepts in the Medical Office****2 Credits**

Prerequisites: Keyboard 25 WPM. Familiarizes students with computer applications in the health care setting. Provides students with basics of operations and applications of computer usages within the health care provider office. Includes simulated data entry for patient records, procedures and diagnostic codes, insurance processing, and electronic transmission of claims and scheduling day-sheet transactions in accordance with the AAMA DACUM guidelines.

**MEA 133 Clinical Theory****3 Credits**

Prerequisites: None. Presents theory related to clinical aspects of the medical office. Includes theory related to vital signs, asepsis, sterilization, medication administration, EKG's, X-ray, nutrition, physical therapy, and other skills needed to assist the physician in the clinical setting.

**MEA 134 Clinical Skills Lab****2 Credits**

Prerequisites: None. Allows students to become familiar with clinical duties and gain the skills needed to perform them. Includes vital signs, asepsis, sterilization, medications, EKGs, X-ray, nutrition, physical therapy, and other technical skills needed to assist the physician.

**MEA 135 Medical Word Processing/Transcription****3 Credits**

Prerequisites: Keyboard 25 WPM. Develops skills and knowledge of medical dictation, machine transcription, and use of word processors and typewriters. Includes typing and transcription of medical reports, terminology, and correspondence.

**MEA 140 Basic Home Health Aide Training****3 Credits**

Prerequisites: None. Presents knowledge considered necessary for providing a general range of home health aide services. Addresses care for a variety of patient populations and focuses on theory behind home health skills.

**MEA 141 Advanced Home Health Aide Training****2 Credits**

Prerequisites: MEA 140 - Basic Home Health Aide Training. Presents advanced topics related to care for homebound clients. Criteria for safely and accurately performing a variety of home health aide skills will be explored. Skills required to function as a home health aide will be taught and evaluated through competency check-offs. Experience at a home health agency employing home health aides is included.

**MEA 142 Body Systems and Disease****3 Credits**

Prerequisites: None. Presents basic concepts of anatomy and physiology along with the study of disease. Includes signs and symptoms of diseases and their impact on the function of various body systems. Explores maintaining optimal health in the presence of a disease. Includes discussion of patient's role in the management of the disease process.

**MEA 143 Home Health Care Terminology****2 Credits**

Prerequisites: None. Explores a system of analysis for basic medical terms. Includes practice in correct spelling of medical terms along with exploration of various medical abbreviations. Emphasizes medical terms and abbreviations specific to the home health care forum.

**MEA 151 Pharmacy Technician I****3 Credits**

Prerequisites: None. Introduces basic skills and information needed to qualify as a Pharmacy Technician in Indiana.

**MEA 152 Pharmacy Technician II****3 Credits**

Prerequisites: MEA 151 - Pharmacy Technician I. Theory is applied through performance of competency levels of the technical pharmacy task including: properly preparing, documenting and processing prescriptions according to pharmacy policy and regulations; preparing intravenous and special solutions; properly preparing and maintaining records appropriate to the pharmacy, including quality control records, controlled substances (narcotic drug distribution), prescription data and records; applying basic principles of microbiology, using aseptic techniques; and operating and maintaining the laminar hood. The student will employ proper communication skills (both written and verbal). Identification and adherence to check points will be emphasized. Current national and Indiana law and administrative rules as they relate to the practice of the pharmacy technician will be presented. The importance of adherence to universal precautions will be discussed.

**MEA 153 Administrative Aspects of Pharmacy Technology****2 Credits**

Prerequisites: None. Addresses the administrative aspect of pharmacy technology, including professional development, professional communication, time management, record keeping, computer applications, third party payment processing, operation of business machines, and utilization of reference material.

**MEA 154 Pharmacy Externship****2 Credits**

Prerequisites: MEA 151 - Pharmacy Technician I. Provides the opportunity to discuss and perform clinical procedures under supervision, with learning experiences obtained in selected retail pharmacies and/or hospitals.

**MEA 203 Disease Conditions****3 Credits**

Prerequisites: None. Presents the basic concepts of diseases, their courses, and functional disturbances as they relate to body systems. Includes the precipitating risk factors and appropriate methods of patient education regarding various disease processes.

**MEA 209 Electrocardiograph - Basic Technique****1 Credit**

Corquisites: MEA 210 - Introduction to EKG Interpretation. Presents the basic reasons for prescribing an electrocardiograph and the theory involved. The physiological principles involved are the basis for proper techniques that will be practiced by the students until they demonstrate competency with both the theory and required skills in doing a prescribed electrocardiograph.

**MEA 210 Introduction to EKG Interpretation****2 Credits**

Prerequisites: None. Includes anatomy and physiology of the cardiovascular system and recognition of basic arrhythmias. Measurement of the EKG complex will be taught with the emphasis placed upon determining heart rates and rhythms.

**MEA 211 Advanced Electrocardiograph Interpretation****3 Credits**

Prerequisites: MEA 210 - Introduction to EKG Interpretation. Includes anatomy and physiology of the cardiovascular system, interpretation of rhythm strips and 12 lead EKGs, and the cardiovascular drugs associated with arrhythmias.

**MEA 212 Phlebotomy****3 Credits**

Prerequisites: MEA 114 - Medical Assisting Laboratory Techniques or program advisor approval. Presents the principles and practices of laboratory specimen collection and processing. Also covers medical terminology, infection control, patient identification, anatomy and physiology, anticoagulants, blood collection, specimen processing, and interpersonal skills.

**MEA 213 Advanced Insurance Coding****3 Credits**

Prerequisites: MEA 115 - Medical Insurance or program advisor approval. Introduces the medical office administrator to codes necessary to bill insurance claims and provides experience in coding claim forms using the correct combination of codes to maximize reimbursement.

**MEA 214 Advanced First Aid and CPR****3 Credits**

Prerequisites: None. Provides students with information necessary to recognize emergency situations, know the proper course of action with different types of emergencies and apply appropriate first aid. Handling of victims of hazardous materials accidents will be addressed. Covers CPR, including one and two rescuer. Teaches adult, infant, and child resuscitation.

**MEA 215 Advanced Medical Terminology****3 Credits**

Prerequisites: HHS 101 - Medical Terminology. Includes more detailed and advanced study of the derivatives of medical terms, symbols, and signs. Presents an in-depth study of the correlation between medical vocabulary and the application of those terms to the anatomy and physiology of the body, related diseases, conditions, and treatment.

**MEA 216 Nutrition****2 Credits**

Prerequisites: None. Presents the importance of a balanced diet; methods of evaluating a diet; the basic four food groups; the functions, requirements and food sources of fats, proteins, carbohydrates, vitamins, and minerals, and the deficiency diseases. Introduces meal planning, nutrition for various age groups, religious and nationality food habits, and diet therapy. Explains special diets for diabetes, diseases of the GI tract, urinary tract, blood, cardiovascular system, obesity, cancer, allergy, and pregnancy.

**MEA 217 Gerontology****3 Credits**

Prerequisites: None. Presents a multidisciplinary study of the sociological, psychological, and physiological aspects of aging. Included will be patient education and the impact that all facets of aging have on the total person.

**MEA 221 Seminar I****1 Credit**

Prerequisites: None. Discusses topics of current interest in the medical assisting profession. Attention is given to special interest projects for students in the medical assistant program. Field trips, guest speakers, audio-visual activities, and seminars may be utilized.

**MEA 222 Seminar II****2 Credits**

Prerequisites: None. Discusses topics of current interest in the medical assisting profession. Attention is given to special interest projects for students in the medical assistant program. Field trips, guest speakers, audio-visual activities, and seminars may be utilized.

**MEA 223 Seminar III****3 Credits**

Prerequisites: None. Discusses topics of current interest in the medical assisting profession. Attention is given to special interest projects for students in the medical assistant program. Field trips, guest speakers, audio-visual activities, and seminars may be utilized.



**MEA 224 Hospital Coding** 3 Credits  
Prerequisites: MEA 213 - Advanced Insurance Coding or advisor approval. Builds on the comprehensive coding skills acquired through prerequisite course MEA 213. Introduces additional instruction in diagnostic related groups (DRG's) and medical record extraction. Provides discussion, observation, and performance opportunities in related insurance coding competencies. Both classroom and clinical sites are used to provide realistic experiences under supervision. External sites include physicians' offices, clinics, and hospitals.

**MEA 225 Insurance Coding Externship** 3 Credits  
Prerequisites: advisor approval. Provides opportunities to observe, perform, and discuss various insurance related competencies under supervision, with learning experience obtained in selected physicians' offices, clinics, or hospitals.

**MEA 226 Medical Assisting - Advanced Clinical Procedures** 3 Credits  
Prerequisites: MEA 133 - Clinical Theory and MEA 134 - Clinical Skills Lab. Advances the knowledge and skills enabling the student to assist in clinical management in the medical and surgical specialties. Addresses health services in the community which are directed toward prevention of disease and maintenance and restoration of health.

**MEA 227 Advanced Administrative Procedures** 3 Credits  
Prerequisites: MEA 130 - Medical Office Administration. Provides an in-depth study of various influences on office functions concerning organization and management of a physician's office. Includes government and professional sources for consultation.

**MEA 228 Ophthalmic Dispensing** 3 Credits  
Prerequisites: None. Includes the study of frame types and parts, facial measurements for fitting, functional and cosmetic aspects of frame selection, and frame alignment, adjusting, and repair. Contact lenses, types, care, insertion and removal methods, modifications, polishing, and patient evaluation and education also are covered.

**MEA 229 Nurse Aide Procedures and Practicum** 3 Credits  
Prerequisites: None. Prepares beginning level nurse aides with the knowledge, skills, and attitudes essential for providing basic nursing care. Students who pass this course will receive a Nurse Aide Certificate. (Note: Contact hours are specified by the Indiana State Board of Health.)

**MEA 230 Structure and Function of the Eye** 2 Credits  
Prerequisites: None. Familiarizes the student with the structure and function of the human eye. Pathological conditions will also be covered.

**MEA 231 Basic Optics** 3 Credits  
Prerequisites: None. Acquaints the student with basic optical principles. Fundamental properties of lenses and mirrors and how they relate to the correction of visual problems will be discussed. Types of optical defects commonly associated with vision will be covered. The student will be introduced to optometric instrumentation, fundamental soft lens formulas, and visual field screening.

**MEA 232 Clinical Optometric/Ophthalmic Practicum** 2 Credits  
Prerequisites: None. This "hands on" field experience allows the student to put into practice, under supervision, skills and knowledge obtained in class and labs.

**MEA 233 Health Unit Coordinator** 5 Credits  
Prerequisites: None. Prepares students to provide reception and clerical support to the nursing unit to facilitate the delivery of nursing care. Students will gain skills in communication methods, problem solving, transcription processes, classification of orders, and appropriate documentation procedures.

**MEA 234 Phlebotomy Externship** 3 Credits  
Prerequisites: MEA 212 - Phlebotomy. Provides the opportunity to discuss and perform phlebotomy procedures under supervision with learning experiences obtained in selected laboratories, physicians' offices, clinics, or hospitals.



**MEA 235 Advanced Transcription****3 Credits**

Prerequisites: MEA 135 - Medical Wordprocessing/Transcription. Improves accuracy and speed of the medical transcriptionist utilizing various formats for medical transcription.

**MEA 281-293 Special Topics in Medical Assistant****1-5 Credits**

Prerequisites: advisor approval. Provides students with the opportunity to experience seminars, workshops, and other instructional activities on topics of interest that reinforce the concepts presented in their program area.

**MEA 299 CMA Comprehensive Review****3 Credits**

Prerequisites: None. Corequisites: advisor approval. Reviews the entire medical assisting program in preparation for the CMA registry examination. Administration, clinical, and general information are covered. Testing procedures are addressed. Emphasis is placed on job readiness and placement. The course earns continuing education units for graduate CMAs to fulfill their certification renewal requirements.

**MKT 101 Principles of Marketing****3 Credits**

Prerequisites: None. Introduces the marketing role in society and how it affects the marketing strategy. Emphasizes the marketing mix, product planning, and the effects of the demographic dimension on the consumer market.

**MKT 102 Principles of Selling****3 Credits**

Prerequisites: None. Provides an overview of the selling process. Includes the psychology of selling and develops skills through a series of selling situations.

**MKT 104 Promotion Management****3 Credits**

Prerequisites: None. Presents management planning and oversight techniques for effectively communicating the results of the marketing strategy to customers. Provides a comprehensive overview of promotion methods as they interact in the marketing mix, which includes price, channel of distribution, and product. Everything the company does has potential for promotional impact for the customers, which therefore requires effective management to pursue its marketing objectives in the target market.

**MKT 110 Consumer Behavior****3 Credits**

Prerequisites: None. Study of the basic principles of consumer behavior which offers insight into the buyer-seller relationship. Application of theories from psychology, social psychology, and economics are examined. Course examines concepts that have implications for marketing management decisions.

**MKT 201 Introduction to Market Research****3 Credits**

Prerequisites: MKT 101 - Principles of Marketing and MAT 112 - Functional Mathematics or MAT 111 - Intermediate Algebra. Presents basic research methods entailing procedures, questionnaire design, data analysis, and effectively communicating research results.

**MKT 202 Logistics/Purchasing Control****3 Credits**

Prerequisites: MKT 101 - Principles of Marketing or BUS 101 - Introduction to Business. Introduces students to the framework of logistics, the logistics environment, customer services, and materials management. Introduces material resources planning (MRP) and just-in-time (JIT) principles

**MKT 204 Marketing Management****3 Credits**

Prerequisites: Departmental approval. Focuses on the analysis, implementation, and control of marketing strategy. Emphasizes the major decisions management faces in its effort to harmonize the objectives and resources of the organization with the needs and opportunities of the marketplace.

**MKT 205 Principles of Insurance****3 Credits**

Prerequisites: None. Introduces the risks faced by business firms, including property, liability and personal losses, and how they are handled. Presents insurance contracts and their uses. Includes an overview of life insurance, health and pension insurance, public policy, government regulations, and social insurance.

**MKT 206 Sales Management** **3 Credits**  
Prerequisites: MKT 102 - Principles of Selling (or) departmental approval. Studies the role of the sales manager emphasizing the leadership function. Focuses on building a sales team, judging sales performance, territorial management, sales recruiting and interviewing, training, and managing the field sales office. Includes sales support and liaison, property, liability, and operations.

**MKT 207 Public Relations** **3 Credits**  
Prerequisites: None. Provides broad coverage of the public relations field and acquaints students with the role of effective internal and external public relations in business and industry. Examines the goals and benefits of public relations, the tools of the public relations practitioner, and the principles and trends of the field.

**MKT 219 Field Study/Cooperative Education** **4 Credits**  
Prerequisites: None. Provides students the opportunity to work at a job site that is specifically related to their career objectives. Provides field experience within the framework of actual work experience in marketing.

**MKT 220 Principles of Retailing** **3 Credits**  
Prerequisites: MKT 101 - Principles of Marketing and MAT 112 - Functional Mathematics or MAT 111 - Intermediate Algebra. Studies retailing concepts and practices, including retail merchandise planning, buying, pricing, promotion, and control in established retail operations. Attention is given to managerial and operational skills.

**MLT 101 Fundamentals of Laboratory Techniques** **3 Credits**  
Prerequisites: advisor approval. Introduces elementary skills required in the medical laboratory. Covers laboratory math, quality control, pipetting skills, venipuncture techniques, and microscope skills.

**MLT 102 Routine Analysis Techniques** **3 Credits**  
Prerequisites: advisor approval. Studies principles, practices, and clinical laboratory techniques associated with routine analysis of urine and other body fluids.

**MLT 196 Introduction to Patient Care and Phlebotomy** **3 Credits**  
Prerequisites: None. Introduces the health care delivery system. Provides instruction in specimen collection techniques, infection control and safety, and teaches applications of communications concepts and stress management.

**MLT 197 Clinical Phlebotomy Experience** **3 Credits**  
Prerequisites: None. Covers the practice and demonstration of clinical applications of phlebotomy in the clinical setting.

**MLT 198 Clinical Phlebotomy Discussion** **1 Credit**  
Prerequisites: None. Develops the professional socialization process necessary to function in a health care setting and reviews routine and special phlebotomy procedures in light of phlebotomist-patient interaction.

**MLT 201 Immunology Techniques** **3 Credits**  
Prerequisites: Student is in good standing and currently enrolled in the MLT program. Provides students with an understanding of principles of the human immunologic system and experience in routine testing.

**MLT 202 Immunohematology Techniques** **3 Credits**  
Prerequisites: MLT 201 - Immunology Techniques. Instructs students in practice and procedures used in blood banking in the clinical laboratory.

**MLT 203 Instrumentation** **2 Credits**  
Prerequisites: Student is in good standing and currently enrolled in MLT program. Includes instrumentation theory and practice as applied to electronic equipment and automated systems in the medical laboratory.

**MLT 205 Hematology Techniques I** **3 Credits**  
Prerequisites: Student is in good standing and currently enrolled in MLT program and MLT 101 - Fundamentals of Laboratory Techniques. Presents theory of blood formation and function and routine hematologic procedures with emphasis on differentia-

tion of normal from commonly encountered abnormal blood cells. Includes basic theory of hemostasis and associated routine coagulation procedures. Presents clinicopathologic correlations.

**MLT 206 Hematology Techniques II**

**3 Credits**

Prerequisites: Student is in good standing and currently enrolled in MLT program and MLT 205 - Hematology Techniques I. Continues the study of principles and procedures in hematology and hemostasis. Introduces procedures beyond those routinely performed. Continues cell differentiation with emphasis on early and less commonly encountered abnormal cells and associated special stains. Includes clinicopathologic correlations.

**MLT 207 Chemistry Techniques I**

**3 Credits**

Prerequisites: None. Corequisite: MLT 101 - Fundamentals of Laboratory Techniques. Presents principles, procedures, and clinicopathologic correlations in routine chemical analysis of the blood and other body fluids. Provides laboratory experiences in basic methods selected to develop routine analytical abilities and to promote the ability to recognize sources of error.

**MLT 209 Routine Analysis Applications**

**1 Credit**

Prerequisites: MLT 102 - Routine Analysis Techniques. Studies clinical applications of routine urine analysis in the hospital laboratory including physical, chemical, and microscopic examination of urine.

**MLT 210 Hematology Applications**

**3 Credits**

Prerequisites: MLT 206 - Hematology Techniques II. Studies and practices the principles and techniques of hematology in the hospital laboratory.

**MLT 212 Immunology Applications**

**1 Credit**

Prerequisites: MLT 201 - Immunology Techniques. Studies and practices the clinical application of serology in the hospital laboratory.

**MLT 213 Immunochemistry Applications**

**3 Credits**

Prerequisites: MLT 202 - Immunochemistry Techniques. Studies and practices the principles and procedures used in blood banking in the hospital laboratory.

**MLT 215 Parasitology and Mycology**

**1 Credit**

Prerequisites: Student must be in good standing and currently enrolled in MLT program and MLT 222 - Microbiology Techniques. Provides study in the isolation, identification, life cycles, and disease processes of pathogenic fungi and parasites.

**MLT 216 Elementary Organic and Biochemistry**

**3 Credits**

Prerequisites: CHM 101 - Chemistry I. Studies the chemistry of carbon-containing compounds and the biochemistry of lipids, carbohydrates, proteins, nucleic acids, and enzymes. Includes related laboratory procedures.

**MLT 217 Advanced Chemistry Technology**

**1 Credit**

Prerequisites: Student must be in good standing and currently enrolled in MLT program. Presents principles and techniques of chemistry procedures beyond routine clinical chemistry testing, such as toxicology, endocrinology, and inborn errors of metabolism.

**MLT 218 Clinical Pathology**

**3 Credits**

Prerequisites: Student must be enrolled in the MLT program and have a GPA of C or above. Examines various disease conditions, diagnosis, etiologies, clinical symptoms, and related laboratory findings.

**MLT 221 Microbiology Applications**

**3 Credits**

Prerequisites: MLT 222 - Microbiology Techniques. Studies applications and clinical practices of microbiology found in the hospital laboratory.

**MLT 222 Microbiology Techniques**

**3 Credits**

Prerequisites: Student is in good standing and currently enrolled in MLT program and BIO 211 - General Microbiology or equivalent recommended. Instructs students in principles of bacteriology, including gram negative and positive bacilli and

cocci, fastidious organisms, and an overview of anaerobic and acid-fast bacteria. Includes instruction in the basic laboratory techniques in clinical bacteriology.

**MLT 224 Chemistry Applications**

**3 Credits**

Prerequisites: MLT 207 - Chemistry Techniques I. Corequisites: MLT 227 - Chemistry Techniques II. Studies and practices the analytical aspects of clinical chemistry in the hospital laboratory.

**MLT 227 Chemistry Techniques II**

**2 Credits**

Prerequisites: MLT 207 - Chemistry Techniques I. Continues the study of principles, procedures, and clinicopathologic correlations in the chemical analysis of blood and other body fluids. Introduces procedures beyond those routinely performed in the clinical chemistry laboratory, including clinicopathologic correlations.

**MLT 280 Co-op/Internship**

**1-6 Credits**

Prerequisites: None. Provides students with the opportunity to work at a job site that is specifically related to their career objectives. Provides on-the-job experience while earning credit toward an associate degree.

**MTT 101 Introduction to Machining**

**3 Credits**

Prerequisites: None. Instructs students in shop safety, industrial terminology, tools and machine tooling, measurement, and layout. Includes laboratory exercises to begin project completion of turning, milling, and grinding applications.

**MTT 102 Turning Processes I**

**3 Credits**

Prerequisites: None. Instructs students in shop safety and industrial terminology and provides laboratory experience toward project completion on the conventional lathe.

**MTT 103 Milling Processes I**

**3 Credits**

Prerequisites: None. Instructs students in shop safety and industrial terminology and provides laboratory experience towards project completion on the vertical and/or horizontal milling machine.

**MTT 104 Machinery Handbook**

**3 Credits**

Prerequisites: Equivalent of MTT 101 - Introduction to Machining and its prerequisites as determined by advisor. Explores the intent and use of the machinery handbook. Applies principles and concepts in the machinery handbook to projects in the industry.

**MTT 106 Advanced Print Interpretation**

**3 Credits**

Prerequisites: MTT 101 - Introduction to Machining or advisor approval. Applies mathematics in solving engineering and design-related problems in the areas of die design, fabrication, assembly, special machinery, die casting, and molds. Emphasizes GDT tolerancing.

**MTT 110 Turning and Milling Processes**

**3 Credits**

Prerequisites: TEC 101 - Manufacturing Processes, recommend MTT 101 - Introduction to Machining. Provides shop safety, industrial terminology, and laboratory experiences on conventional lathe and milling machines.

**MTT 202 Advanced Turning Processes II**

**3 Credits**

Prerequisites: MTT 102 - Turning Processes I or MTT 110 - Turning and Milling Processes and its prerequisites as determined by advisor. Instructs students in shop safety and industrial terminology.

**MTT 203 Milling Processes II**

**3 Credits**

Prerequisites: MTT 103 - Milling Processes I or MTT 110 - Turning and Milling Processes. Covers shop safety, industrial terminology, and provides advanced laboratory experience towards project completion on the vertical and/or horizontal milling machine.

**MTT 204 Abrasive Processes I**

**3 Credits**

Prerequisites: TEC 101 - Manufacturing Processes. Provides shop safety, industrial terminology, and laboratory experiences on abrasive processing machines. Includes superabrasives technology processes.

**MTT 205 Abrasive Processes II****3 Credits**

Prerequisites: MTT 204 - Abrasive Processes I. Emphasizes shop safety, industrial terminology, and provides advanced laboratory experience towards project completion on a variety of abrasive processing machines.

**MTT 206 Tooling Design I****3 Credits**

Prerequisites: MTT 110 - Turning and Milling Processes. Introduces concepts of tooling design, assembly, and standards of fabrication. Emphasizes jig and fixture design/components, application, and operational characteristics.

**MTT 207 Tooling Design II****3 Credits**

Prerequisites: MTT 206 - Tooling Design I. Covers concepts of tooling design, assembly, and standards of fabrication. Emphasizes blanking, piercing and progressive type dies, design/components including application and operational characteristics.

**MTT 208 CNC Programming I****3 Credits**

Prerequisites: MAT 121 - Geometry-Trigonometry or MAT 131 - Algebra/Trigonometry I or advisor approval. Introduces two and three axis CNC machining. Develops the theory of programming in the classroom with application of the program accomplished on industry-type machines. Studies terminology of coordinates, cutter paths, angle cutting, and linear and circular interpolation.

**MTT 209 CNC Programming II****3 Credits**

Prerequisites: MTT 208 - CNC Programming I or advisor approval. Expands on MTT 208, providing further study in computer-aided numerical control programming. Focuses on canned cycles, loops, macros, thread cycles, drilling, and pocket milling cycles.

**MTT 210 Interactive CNC****3 Credits**

Prerequisites: MTT 106 - Advanced Print Interpretation, MTT 208 - CNC Programming I, MAT 121 - Geometry-Trigonometry, and computer competencies as determined by advisor. Continues MTT 209 - CNC Programming II. Introduces advanced applications of computer-assisted part programming and simulation, language codes set-up and operation, troubleshooting and problem solving in a CNC turning center and CNC machining center. Includes related mathematical skills.

**MTT 211 Advanced Programming Techniques****3 Credits**

Prerequisites: MTT 210 - Interactive CNC. Includes the application of advanced CNC programming techniques to industrial machining. Uses downloading and uploading techniques through advanced projects.

**MTT 220 CAD/CAM I****3 Credits**

Prerequisites: MTT 208 - CNC Programming I, DCT 113 - Intermediate CAD, DSN 220 - Advanced CAD, or equivalent as determined by advisor. Covers the development of various machine routines. Introduces computer-assisted machining as it relates to automated milling and machining centers. Emphasizes proper programming techniques, control familiarity, file data, and machining functions.

**MTT 221 CAD/CAM II****3 Credits**

Prerequisites: MTT 220 - CAD/CAM I or equivalent as determined by advisor. Covers the development of 3-D shapes and the codes necessary to produce parts. Requires students to design a new product or modify an existing design. Includes creating surface curves. Focuses on creating toolpaths for complex 3D surfaces.

**MTT 222 CAD/CAM III****3 Credits**

Prerequisites: MTT 221 - CAD/CAM II or equivalent as determined by advisor. Covers the development of geometry and codes necessary for machining an actual part. Introduces computer-assisted machining as it relates to automated lathes and turning centers. Emphasizes proper programming techniques, control familiarity, file data, and machining functions.

**NUR 150 Nursing and Universal Needs****4 Credits**

Prerequisites: Admission to program. Corequisites: NUR 151 - Nursing and Universal Needs Practicum. Provides fundamental facts, concepts, principles, and rationales necessary to meet universal healthcare needs. Introduces the five components of the nursing process and the roles of the associate degree nurse.



**NUR 151 Nursing and Universal Needs Practicum****4 Credits**

Prerequisites: Admission to program. Corequisites: NUR 150 - Nursing and Universal Needs. Simulated and actual patient care situations provide an opportunity to develop interpersonal and psychomotor skills. Initiates a beginning level of assessing, analyzing, planning, implementing, and evaluating therapeutic measures in meeting basic universal healthcare needs. Provides an opportunity in the laboratory and clinical setting to explore the role of the associate degree nurse.

**NUR 152 Nursing Related to Health Deviation I****5 Credits**

Prerequisites: NUR 150 - Nursing and Universal Needs and NUR 151 - Nursing and Universal Needs Practicum. Corequisites: NUR 153 - Nursing Related to Health Deviation I Practicum. Defines the role of the associate degree nurse in assisting clients experiencing health deviations related to nutrition/elimination, rest/activity, safety, and homeostasis. The nursing process is utilized to promote, maintain, and restore health or support death with dignity in the adult client.

**NUR 153 Nursing Related to Health Deviation I Practicum****5 Credits**

Prerequisites: NUR 150 - Nursing and Universal Needs and NUR 151 - Nursing and Universal Needs Practicum. Corequisites: NUR 152 - Nursing Related to Health Deviation I. Provides experience that enables the student to progress in the role of the associate degree nurse when providing care to adult clients experiencing health deviations. The nursing process guides the application of scientific facts, concepts, principles, and rationales in the delivery of nursing care. Psychomotor skills and appropriate therapeutic communication are emphasized.

**NUR 154 Pharmacotherapeutics****2 Credits**

Prerequisites: Admission to program. Introduces the student to the fundamental principles of drug action, the classification of drugs and the appropriate nursing actions to achieve the desired outcomes of therapy. The nursing process as a framework for learning is integrated throughout the course.

**NUR 249 Transition to ASN Nursing****3 Credits**

Prerequisites: Admission to program, ANP 101 - Anatomy and Physiology I, ANP 102 - Anatomy and Physiology II, ENG 111 - English Composition, MAT 111 - Intermediate Algebra, PSY 101 - Introduction to Psychology, current Indiana LPN license, and official transcript from PN program. Examines the role of the associate degree nurse. Identifies components of the ASN program philosophy. Reviews the facts, concepts, and principles underlying the nursing process. Laboratory and clinical experience is provided to review basic nursing skills and assist the student in identifying appropriate nursing responses to health deviation needs.

**NUR 250 Nursing Related to Health Deviation II****5 Credits**

Prerequisites: NUR 152 - Nursing Related to Health Deviation Needs I and NUR 153 - Nursing Related to Health Deviation Needs I Practicum. Corequisites: NUR 251 - Nursing Related to Health Deviation II Practicum. Defines the role of the associate degree nurse in assisting clients experiencing health deviations related to oxygenation, social interaction/solitude and continued health deviations of safety and homeostasis. The nursing process with emphasis on planning, intervention, and evaluation is utilized to promote, maintain, and restore health or support death with dignity in the adult client. Leadership skills and advanced therapeutic communication are also emphasized.

**NUR 251 Nursing Related to Health Deviation II Practicum****5 Credits**

Prerequisites: NUR 152 - Nursing Related to Health Deviation I and NUR 153 - Nursing Related to Health Deviation I Practicum. Corequisites: NUR 250 - Nursing Related to Health Deviation II. Provides experiences that allow the student to further refine the role of the associate degree nurse in providing care to clients experiencing health deviations. The nursing process guides the application of scientific facts, concepts, and principles in the delivery of nursing care. Leadership skills and advanced therapeutic communication are also applied.

**NUR 252 Nursing Related to Developmental Needs****4 Credits**

Prerequisites: NUR 152 - Nursing Related to Health Deviation I and NUR 153 - Nursing Related to Health Deviation I Practicum. Corequisites: NUR 253 - Nursing Related to Developmental Needs Practicum. Identifies the role of the associate degree nurse in assisting clients to meet their developmental needs which includes the maintenance of conditions to support life processes and maturation. Utilizes the nursing process with emphasis on planning, implementation, and evaluation. It will be utilized to evaluate therapeutic measures that promote, maintain, and restore health or support death with dignity.

**NUR 253 Nursing Related to Developmental Needs Practicum****4 Credits**

Prerequisites: NUR 152 - Nursing Related to Health Deviation I and NUR 153 - Nursing Related to Health Deviation I Practicum. Corequisites: NUR 252 - Nursing Related to Developmental Needs. Provides experiences that allow the student to further refine the role of the associate degree nurse when providing care to the childbearing and childbearing family experiencing developmental needs which includes the maintenance of conditions to support life processes and maturation. The nursing



process guides the application of scientific facts, concepts, principles, and rationales in the delivery of nursing care. Decision making and appropriate therapeutic communication are also emphasized.

**NUR 254 Professional Nursing Issues**

**2 Credits**

Prerequisites: Successful completion of previous semester. Examines issues and nursing's responsibility to meet changing needs of persons in their environment. Historical aspects, current developments, future trends, improvement of nursing practice, legal/ethical considerations, and personal/professional growth are integrated into the examination of the role of the associate degree nurse.

**OAD 019 Keyboarding**

**3 Credits**

Prerequisites: None. Provides students with the fundamentals of keyboarding using the touch method. Emphasizes mastery of the keyboard, development of formatting skills, and development of speed and accuracy.

**OAD 029 Speed and Accuracy Development**

**1 Credit**

Prerequisites: OAD 019 - Keyboarding. Designed to diagnose individual keyboarding speed and accuracy skills and bring those skills to an employable level.

**OAD 103 Word Processing Applications**

**3 Credits**

Prerequisites: None. Introduces the concepts of word processing systems. Offers hands-on experience in the operation of a specific word processing software package.

**OAD 108 Shorthand/Notetaking I**

**3 Credits**

Prerequisites: None. This course introduces basic principles of a note-taking system. Emphasis is placed on note-taking techniques, legibility, and mastery of the basic vocabulary. Dictation and transcription of material is included.

**OAD 110 Presentation Graphics**

**3 Credits**

Prerequisites: CIS 101 - Introduction to Microcomputers or equivalent. Provides "hands-on" experience and familiarizes students with specific advanced design and layout techniques and practical applications of business presentations.

**OAD 114 Desktop Publishing**

**3 Credits**

Prerequisites: CIS 101 - Introduction to Microcomputers or equivalent. Emphasizes the production of publication-quality documents. Attention is given to design and layout principles and production techniques. Fonts, graphics, and page composition are integrated into camera-ready documents using computer software and hardware.

**OAD 116 Essentials of Business Correspondence**

**3 Credits**

Prerequisites: ENG 025 - Introduction to College Writing II. An intensive, competency-based business correspondence course that involves grammar, word usage, pronunciation, punctuation, proofreading, spelling, vocabulary building, and other language skills that are essential to good workplace communication.

**OAD 119 Document Processing**

**3 Credits**

Prerequisites: Entry level proficiency of 35 gwpm and basic formatting. Emphasis is placed on increasing speed, improving accuracy, developing and applying formatting skills, applying communication and language arts skills, and developing document production techniques.

**OAD 121 Office Procedures**

**3 Credits**

Prerequisites: CIS 101 - Introduction to Microcomputers. Prepares the student to understand and carry out responsibilities assigned in a business office. Topics include telephone techniques, office equipment, travel and conference arrangements, professional development, research techniques, time and stress management, and business ethics.

**OAD 203 Advanced Word Processing**

**3 Credits**

Prerequisites: OAD 103 - Word Processing Applications or advisor approval. Develops the ability to transfer information processing skills to a second word processing package.

**OAD 207 Integrated Applications****3 Credits**

Prerequisites: CIS 101 - Introduction to Microcomputers or equivalent experience. Explores the advanced features of an integrated office software package using word processing, spreadsheets, databases, and presentation graphics.

**OAD 208 Shorthand/Notetaking II****3 Credits**

Prerequisites: OAD 108 - Shorthand/Notetaking I. Emphasizes the use of language arts skills and production skills in applying the principles of a notetaking system. Emphasis is placed on the use of reference materials to produce accurate documents. Dictation and transcription of material is included.

**OAD 211 Medical Transcription****3 Credits**

Prerequisites: HHS 101 - Medical Terminology and OAD 119 - Document Processing with an entry-level speed of 40 gwm with a five error limit. Develops skills and knowledge of medical transcription utilizing medical reports, terminology, and correspondence.

**OAD 214 Multimedia Design****3 Credits**

Prerequisites: CIS 101 - Introduction to Microcomputers. Continues the production of publication-quality documents. Attention is given to design and layout principles and production techniques. Color and editing graphics and photographs will be introduced. Students will also apply their design skills to preparing documents for electronic publishing on the World Wide Web.

**OAD 215 Legal Transcription****3 Credits**

Prerequisites: OAD 119 - Document Processing with an entry-level speed of 40 GWAM with a 5 error limit. Provides hands-on training in formatting legal correspondence and court documents in the basic areas of law. Students will learn specialized rules of punctuation, terminology, and standards for legal documents. In a laboratory setting, students will learn how to use a transcribing machine to produce legal documents from tape dictation.

**OAD 216 Business Communications****3 Credits**

Prerequisites: ENG 111 - English Composition, CIS 101 - Introduction to Microcomputers. Emphasizes analysis of business communication environments-cultural, organizational, technological, international, and interpersonal-and the use of communications standards to direct the choice of oral and written communication methods and techniques. It includes practice in writing a variety of messages used to communicate in business and industry with an emphasis on the potential impact of the message on the receiver as a basis for planning and delivering effective business communications.

**OAD 217 Problem Solving for Computer Users****3 Credits**

Prerequisites: CIS 101 - Introduction to Microcomputers. Introduces the organization, structure, and functions necessary for managing and maintaining information systems within a business organization. Presents the student with basic computer system concepts such as file and resource management, device drivers, file structures, hard disk organization, software installation, upgrading and maintenance, and fundamental data security techniques. These concepts will be incorporated into practical applications.

**OAD 218 Spreadsheets****3 Credits**

Prerequisites: CIS 101 - Introduction to Microcomputers, ACC 101 - Accounting Principles I. Provides an in-depth understanding of worksheet design, charting, what-if analysis, worksheet database creation and manipulation, and OLE. Knowledge and use of a spreadsheet will be applied to various business applications. Integration of spreadsheets in other applications will be addressed.

**OAD 220 Records and Database Management****3 Credits**

Prerequisites: CIS 101 - Introduction to Microcomputers. Focuses on the management and control of documents from creation to disposition using manual, automated, and electronic media. Examines filing procedures, records management personnel, and equipment. Uses database software to create, modify, query, and report information from a database.

**OAD 221 Office Administration and Supervision****3 Credits**

Prerequisites: OAD 103 - Word Processing Applications, OAD 216 - Business Communications, and OAD 121 - Office Procedures. Completion of minimum of 45 credits toward degree. Emphasizes management of office functions. Key topics include personnel, team building, ergonomics, project management, and leadership styles. Case studies and role playing projects are included. Students will also complete the program outcomes assessment tool.

**OAD 226 Advanced Electronic Spreadsheets** 3 Credits  
Prerequisites: OAD 218 - Spreadsheets. Continues the study of electronic spreadsheets in business. Emphasizes the advanced application of electronic spreadsheets.

**OAD 280 Co-op/Internship/Externship/Practicum** 1-6 Credits  
Prerequisites: OAD 103 - Word Processing Applications, OAD 216 - Business Communications, and OAD 121 - Office Procedures. Completion of minimum of 45 program credits toward degree or advisor approval. Students gain on-the-job experience while earning college credits towards an associate degree.

**OAD 281-293 Special Topics in Office Administration** 1-3 Credits  
Prerequisites: None. Provides students with the opportunity to experience seminars, workshops, and other instructional activities on topics of interest that reinforce the concepts presented in their program area.

**OTA 101 Foundations of Occupational Therapy** 3 Credits  
Prerequisites: Admission to the OTA program. Establishes a philosophical base for subsequent course work by introducing and examining concepts basic to the study of occupational therapy assistant.

**OTA 102 Kinesiology** 2 Credits  
Prerequisites: None. Corequisites: OTA 101 - Foundations of Occupational Therapy and OTA 103 - Medical Conditions in Occupational Therapy. Examines principles of human movement including analysis of biomechanics, joint structure and function, and musculoskeletal function. Manual muscle testing and goniometric measurement are also covered.

**OTA 103 Medical Conditions in Occupational Therapy** 3 Credits  
Prerequisites: None. Corequisites: OTA 101 - Foundations of Occupational Therapy and OTA 102 - Kinesiology. Provides a basic understanding of physical conditions commonly referred to occupational therapy. Typical occupational therapy treatment plans and goals are discussed for selected conditions. The concept of wellness and holistic medicine also is introduced.

**OTA 201 Field Work 1-A** 1 Credit  
Prerequisites: OTA 101 - Foundations of Occupational Therapy, OTA 102 - Kinesiology, OTA 103 - Medical Conditions in Occupational Therapy, and OTA 204 - Psychiatric Conditions in Occupational Therapy. Corequisites: OTA 202 - Therapeutic Activities, OTA 203 - Therapeutic Group Activities, OTA 205 - COTA in Physical Health, OTA 206 - Assistive Technology and Adaptive Equipment, and permission from program chair. Offered the first summer session after the general education is completed. Most of the general education has occurred and the student has a foundation for understanding normal human development. Allows the student to be in a clinical setting and to initiate observation and notewriting skills.

**OTA 202 Therapeutic Activities** 3 Credits  
Prerequisites: OTA 101 - Foundations of Occupational Therapy, OTA 102 - Kinesiology, OTA 103 - Medical Conditions in Occupational Therapy, and OTA 204 - Psychiatric Conditions in Occupational Therapy. Corequisites: OTA 201 - Field work 1 - A, OTA 203 - Therapeutic Group Activities, OTA 205 - COTA in Physical Health, and OTA 206 - Assistive Technology and Adaptive Equipment. Provides learning experiences in the following categories of therapeutic activities: crafts, sensory awareness, movement awareness, fine arts, construction, games, self-care, domestic, textiles, vocational, recreational, and educational. Emphasizes activity analysis and the individualization of activity selection.

**OTA 203 Therapeutic Group Activities** 3 Credits  
Prerequisites: OTA 101 - Foundations of Occupational Therapy, OTA 102 - Kinesiology, OTA 103 - Medical Conditions in Occupational Therapy, and OTA 204 - Psychiatric Conditions in Occupational Therapy. Corequisites: OTA 202 - Therapeutic Activities, OTA 205 - COTA in Physical Health, and OTA 206 - Assistive Technology and Adaptive Equipment. Provides experiential learning in the analysis and therapeutic use of a variety of group activities used in occupational therapy. Analyzes selected activities in terms of occupational performance, human development, and adaptation to meet client needs.

**OTA 204 Psychiatric Conditions in Occupational Therapy** 3 Credits  
Prerequisites: OTA 101 - Foundations of Occupational Therapy, OTA 102 - Kinesiology, and OTA 103 - Medical Conditions in Occupational Therapy. Reviews psychiatric disorders and the interdisciplinary approach to the conditions commonly referred to occupational therapy. Topics of discussion will include clinical team approach, legal issues, nomenclature, clinical description, and etiology of psychiatric disabilities.

**OTA 205 COTA in Physical Health****3 Credits**

**Prerequisites:** OTA 101 - Foundations of Occupational Therapy, OTA 102 - Kinesiology, OTA 103 - Medical Conditions in Occupational Therapy, and OTA 204 - Psychiatric Conditions in Occupational Therapy. **Corequisites:** OTA 201 - Fieldwork 1 - A, OTA 202 - Therapeutic Activities, OTA 203 - Therapeutic Group Activities, and OTA 206 - Assistive Technology and Adaptive Equipment. Presents assistant-level techniques for management of clinical physical dysfunction cases referred to occupational therapy. Includes initial screening, evaluation, treatment planning and implementation, intervention, and prevention techniques as utilized by occupational therapy assistants in a variety of clinical settings and specific physical dysfunction diagnoses treated by occupational therapy.

**OTA 206 Assistive Technology and Adaptive Equipment****2 Credits**

**Prerequisites:** OTA 101 - Foundations of Occupational Therapy, OTA 102 - Kinesiology, OTA 103 - Medical Conditions in Occupational Therapy, and OTA 204 - Psychiatric Conditions in Occupational Therapy. **Corequisites:** OTA 201 - Fieldwork 1 - A, OTA 202 - Therapeutic Activities, OTA 203 - Therapeutic Group Activities, and OTA 205 - COTA in Physical Health. Provides supervised learning experience in the application of assistive technology in occupational therapy. Includes experiential learning in the analysis, selection, use, adjustment, adaptation, and/or fabrication of assistive technological devices.

**OTA 207 Daily Living Skills****3 Credits**

**Prerequisites:** OTA 101 - Foundations of Occupational Therapy, OTA 102 - Kinesiology, OTA 103 - Medical Conditions in Occupational Therapy, OTA 201 - Fieldwork 1 - A, OTA 204 - Psychiatric Conditions in Occupational Therapy, OTA 205 - COTA in Physical Health, and OTA 206 - Assistive Technology and Adaptive Equipment. **Corequisites:** OTA 208 - COTA and Interactive Model, OTA 209 - Fieldwork 1 - B, OTA 210 - COTA in Mental Health, and OTA 211 - Clinic Transition and Management. Provides the occupational therapy assistant student with supervised learning experiences in independent living skills which emphasize patient independence in personal mobility, self-care, communication, transportation, family living, work, and leisure skills. Addresses independent living skills in physical dysfunction, psycho-social dysfunction, and pediatrics.

**OTA 208 COTA and Interactive Model****3 Credits**

**Prerequisites:** OTA 101 - Foundations of Occupational Therapy, OTA 102 - Kinesiology, OTA 103 - Medical Conditions in Occupational Therapy, OTA 201 - Fieldwork 1 - A, OTA 202 - Therapeutic Activities, OTA 203 - Therapeutic Group Activities, OTA 205 - Psychiatric Conditions in Occupational Therapy, and OTA 206 - Assistive Technology and Adaptive Equipment. **Corequisites:** OTA 207 - Daily Living Skills, OTA 209 - Fieldwork 1 - B, OTA 210 - COTA in Mental Health, and OTA 211 - Clinical Transition and Management. Provides the occupational therapy assistant student with a basis from which to understand and provide therapeutic activities in a non-medical setting. Presents techniques for a variety of populations in settings such as schools, nursing homes, adult day care and sheltered workshops.

**OTA 209 Field Work 1-B****1 Credit**

**Prerequisites:** OTA 101 - Foundations of Occupational Therapy, OTA 102 - Kinesiology, OTA 103 - Medical Conditions in Occupational Therapy, OTA 201 - Fieldwork 1 - A, OTA 202 - Therapeutic Activities, OTA 203 - Therapeutic Group Activities, OTA 205 - COTA in Physical Health, and OTA 206 - Assistive Technology and Adaptive Equipment. **Corequisites:** OTA 207 - Daily Living Skills, OTA 208 - COTA and Interactive Model, OTA 210 - COTA in Mental Health, OTA 211 - Clinic Transition and Management, and permission from program chair. Provides for clinical observation and practice of the occupational therapy skills and processes presented in previous and current courses in the curriculum. Emphasizes interviewing/structured evaluation, treatment planning, implementation, and discharge. Requires weekly seminar attendance.

**OTA 210 COTA in Mental Health****3 Credits**

**Prerequisites:** OTA 101 - Foundations of Occupational Therapy, OTA 102 - Kinesiology, OTA 103 - Medication Conditions in Occupational Therapy, OTA 201 - Fieldwork 1 - A, OTA 202 - Therapeutic Activities, OTA 203 - Therapeutic Group Activities, OTA 204 - Psychiatric Conditions in Occupational Therapy, and OTA 205 - COTA in Physical Health. **Corequisites:** OTA 207 - Daily Living Skills, OTA 208 - COTA and Interactive Model, OTA 209 - Fieldwork 1 - B, and OTA 211 - Clinical Transition and Management. Presents the psychiatric occupational therapy process and the role of the COTA with psychiatric cases referred to occupational therapy. Includes initial screening, evaluation, treatment planning, and implementation of programs for patients/clients.

**OTA 211 Clinical Transition and Management****4 Credits**

**Prerequisites:** OTA 101 - Foundations of Occupational Therapy, OTA 102 - Kinesiology, OTA 103 - Medical Conditions in Occupational Therapy, OTA 201 - Fieldwork 1 - A, OTA 202 - Therapeutic Activities, OTA 203 - Therapeutic Group Activities, OTA 204 - Psychiatric Conditions in Occupational Therapy, and OTA 205 - COTA in Physical Health. **Corequisites:** OTA 207 - Daily Living Skills, OTA 208 - COTA and Interactive Model, OTA 209 - Fieldwork 1 - B, and OTA 210 - COTA in Mental Health. Presents basic theory, techniques, and skills necessary for the transition into the clinical setting and for the management of an activities program. Presents management information as it relates to the role of the COTA along with an examination of the qualities necessary for success in the clinical setting.

**OTA 212 Field Work 2-A****2 Credits**

Prerequisites: Successful completion of all didactic portions of program and permission from program chair. Provides an in-depth experience and opportunity to apply the knowledge, skills, and attitudes learned through the coursework of the Occupational Therapy Assistant program. Students deliver occupational therapy services to clients with a variety of ages and conditions and gain experience specific to the role and functions expected of an entry-level occupational therapy assistant.

**OTA 213 Field Work 2 - B****2 Credits**

Prerequisites: Successful completion of all didactic portions of program and permission from program chair. \*NOTE: To ensure continuity of application of academic concepts, all fieldwork should be completed within 18 months following completion of academic preparation. THERE ARE NO EXCEPTIONS TO THIS GUIDELINE. Provides an in-depth experience and opportunity to apply the knowledge, skills, and attitudes learned through the coursework of the Occupational Therapy Assistant program. Students deliver occupa

**PNU 114 Nursing Issues and Trends****1 Credit**

Prerequisites: Admission into the PN program. Focuses on nursing history, ethical and legal issues. Examines the organizational patterns and roles of the practical nurse in the health care delivery system. Emphasizes life-long learning.

**PNU 121 Introduction to Nursing I****4 Credits**

Prerequisites: Admission to PN program. Corequisites: ANP 101 - Anatomy and Physiology I and ANP 102 - Anatomy and Physiology II or PNU 126 - Integrated Life Science. Introduces the role of the practical nurse as a member of the health care team. The nursing process is the basis for providing care within the wellness/illness continuum. Focuses on the application of basic nursing skills essential in meeting biological, psychosocial, cultural, and spiritual needs of individuals in preventive, therapeutic, and rehabilitative environments.

**PNU 122 Introduction to Nursing II****6 Credits**

Prerequisites: PNU 121 - Introduction to Nursing I. Focuses on the progression of learning nursing skills. Emphasizes application of safe nursing practice in the clinical setting. Introduces drug administration, dosage calculations, and mental health concepts.

**PNU 123 Pharmacology****3 Credits**

Prerequisites: PNU 122 - Introduction to Nursing II and ANP 102 - Anatomy and Physiology II. Corequisites: PNU 126 - Integrated Life Science. Studies pharmacological agents, including classifications, actions, side effects, interactions, and nursing implications.

**PNU 126 Integrated Life Science****5 Credits**

Prerequisites: Successful completion of ASSET and/or basic skills. Approval of program chair. Examines physical/chemical factors that enable man to maintain homeostasis of the internal environment. Emphasizes anatomy and physiology. Integrates concepts of chemistry, nutrition, and microbiology.

**PNU 127 Care of the Adult****5 Credits**

Prerequisites: PNU 122 - Introduction to Nursing II and ANP 102 - Anatomy and Physiology II. Corequisites: PNU 126 - Integrated Life Science. Focuses on the application of the nursing process in understanding the pathophysiology and nursing care of clients with circulatory, ventilation, and immunity dysfunctions. Emphasizes meeting biological, psychosocial, cultural, and spiritual needs in selected environments. Theory is applied in clinical component.

**PNU 128 Care of the Adult****5 Credits**

Prerequisites: PNU 122 - Introduction to Nursing II and ANP 102 - Anatomy and Physiology II. Corequisites: PNU 126 - Integrated Life Science. Focuses on the application of the nursing process in understanding the pathophysiology and nursing care of clients with nutrition, elimination, reproduction, and hormone dysfunctions. Emphasis will be on meeting biological, psychosocial, cultural, and spiritual needs in selected environments. Theory is applied in clinical component.

**PNU 129 Care of the Adult****5 Credits**

Prerequisites: PNU 122 - Introduction to Nursing II and PNU 126 - Integrated Life Science. Corequisites: ANP 102 - Anatomy and Physiology II. Focuses on the application of the nursing process in understanding the pathophysiology and nursing care of clients with mobility, neurological, sensory, and dermatological dysfunctions. Emphasis will be on meeting biological, psychosocial, cultural, and spiritual needs in selected environments. Theory is applied in clinical component.



**PNU 130 Nursing Care of the Older Adult****5 Credits**

**Prerequisites:** ANP 102 - Anatomy and Physiology II or PNU 126 - Integrated Life Science, and PNU 122 - Introduction to Nursing II. Focuses on the application of the nursing process in meeting biological, psychosocial, cultural, and spiritual needs of older clients in selected environments. Preventive, therapeutic, rehabilitative care, and in support of death with dignity are major components. Theory is applied in the clinical setting.

**PNU 131 Nursing Care of the Childbearing Family****6 Credits**

**Prerequisites:** ANP 102 - Anatomy and Physiology II or PNU 126 - Integrated Life Science, and PNU 122 - Introduction to Nursing II. Emphasis is on the normal reproductive cycle and normal growth and development of the child within the wellness/illness continuum. Examines conditions and selected interventions based on the nursing process, in providing preventive, therapeutic, and rehabilitative care for the mother and child. The role of the practical nurse is identified in providing holistic care to the childbearing family within the clinical setting.

**PNU 280 Co-op/Internship****1-6 Credits**

**Prerequisites:** None. The student will work at a job site that is specifically related to his/her career objectives. This course is designed to provide on-the-job experience while earning credit toward an associate degree.

**PST 120 First Responder****3 Credits**

**Prerequisites:** None. Provides students with information necessary to recognize emergency situations, know the proper course of action with different types of emergencies, and apply appropriate first aid. Addresses handling of victims of hazardous materials accidents. Covers CPR, including one and two rescuer, and adult, infant, and child resuscitation.

**PST 121 Risk Management****3 Credits**

**Prerequisites:** None. Introduces occupational safety and health standards and codes with emphasis on applications of codes to typical work situations and MSDS requirements. Includes emergency first aid, safety protection, eye protection, and chemicals handling. Covers employer and employee rights as well as violations, citations, penalties, variances, appeals, and record keeping.

**PST 220 Incident Management Systems****3 Credits**

**Prerequisites:** None. Emphasizes the command and control of major department operations at an advanced level, linking operations and safety. Areas of study include incident management systems, pre-incident, size-up, command systems, sectoring functions, staging, safety officer, command post, communications, news media, and computer aided resources. Utilizes simulated incidents requiring the applications of appropriate solutions.

**PST 221 Computer Design and Planning****3 Credits**

**Prerequisites:** TEC 104 - Computer Fundamentals for Technology. Focuses on the needs and uses of the computer in public safety. Includes computer-aided dispatch, advanced levels of cameo, I-Chiefs, computer-aided design of equipment, generation of incident reports, application of computers for the budgetary process, computer-aided resource and materials, maintenance, test records of vehicles, and the GIS program.

**PST 222 Industrial Loss Prevention****3 Credits**

**Prerequisites:** None. Provides the student with a comprehensive study of the Code of Federal Regulations 29-1910. Covers the General Industry Standards Subparts A to Subparts R. Includes the responsibility of a safety department within industry and the emphasis placed on the Code of Federal Regulations. Emphasizes the need for proper record keeping and reporting to the Indiana Occupational Safety and Health Administration. Focuses on safety and the steps needed to administer a quality program.

**PST 281-293 Special Topics in Public Safety****1-5 Credits**

**Prerequisites:** None. Provides students with the opportunity to experience seminars, workshops, and other instructional activities on topics of interest that reinforce the concepts presented in their program area.

**QSC 101 Quality Control Concepts and Techniques I****3 Credits**

**Prerequisites:** None. Covers current quality control concepts and techniques in industry with emphasis on modern manufacturing requirements.



**QSC 102 Statistical Process Control****3 Credits**

Prerequisites: None. Studies the fundamental tools of statistical process control which are used in industry to reduce costs and increase productivity at a predictable quality level. Emphasizes principles and techniques of statistical process control to ensure that prevention instead of detection of problems is practiced. Includes basic statistical and probability theory, sampling techniques, process control charts, the nature of variation, histograms, and attribute and variable charts.

**QSC 201 Advanced Statistical Process Control****3 Credits**

Prerequisites: QSC 102 - Statistical Process Control. Builds on the basic principles of QSC 102 with advanced techniques by industry to ensure economic production of goods based on defect prevention rather than defect detection. Covers the various decisions to modify, change, or adjust processes based on statistical evidence. Stresses interpretation of statistical data and distinguishing between common and special causes of problems. Emphasizes appropriate use of control charts, trend analysis, assessing process and machine capability, evaluating the measurement process, using computers, and automated data collection systems and implementation techniques.

**QSC 202 Quality Control Concepts and Techniques II****3 Credits**

Prerequisites: QSC 101 - Quality Control Concepts and Techniques I, QSC 102 - Statistical Process Control, MAT 115 - Statistics or advisor approval. Acquaints students with quality control systems. Emphasizes the systems approach to quality, establishing the quality system, and applying total quality control in the company.

**QSC 203 Metrology****3 Credits**

Prerequisites: None. Covers techniques of linear and angular measurement and applications for industrial processes and quality control.

**QSC 204 Total Quality Management****3 Credits**

Prerequisites: None. Teaches the philosophy of total quality management. Focuses on improving processes and reducing variation in systems. Covers management's role in improving aspects of manufacturing and service organizations to achieve quality improvement.

**QSC 210 Quality Management Principles****3 Credits**

Prerequisites: None. Stresses the management concept relating to employee attitudes, motivation, and job satisfaction, as well as philosophies, styles of leadership, and team building as they relate to quality objectives.

**QSC 281-293 Special Topics in Quality Science****1-5 Credits**

Prerequisites: None. Provides students with the opportunity to experience seminars, workshops, and other instructional activities on topics of interest that reinforce the concepts presented in their program area.

**RAD 101 Orientation and Nursing in X-Ray Technology****4 Credits**

Prerequisites: Acceptance into the program through appropriate assessment or successful completion of college entry courses. Covers seven units. Introduces radiology and prepares students for entry into a clinical setting.

**RAD 102 Principles of Radiographic Exposures I****2 Credits**

Prerequisites: RAD 107 - Radiation Physics. Presents individual and group characteristics needed to produce the ideal radiograph. Includes knowledge of interchangeability of mAs, kVp, film/screen combinations, distance, and grids. Covers factors and considerations needed for pediatric techniques, calibration, heat unit calculation, and technique chart construction.

**RAD 103 Radiographic Positioning I****3 Credits**

Prerequisites: Acceptance into program through appropriate assessment or successful completion of pre-college courses, CIS 101 - Introduction to Microcomputers, and any other previous radiography courses. Correlates positioning, terminology, techniques, and film critique with the examinations of chest, abdomen, upper extremity, upper/lower GI tracts, and urinary tract.

**RAD 104 X-Ray Clinical Education I****4 Credits**

Prerequisites: Concurrent enrollment with RAD 103 - Radiographic Positioning I, completion of CIS 101 and other applicable courses. Follows category 2 of the competency lab model, which tests proficiency of skills from categories 1 and 2. Includes supervised clinical experience.

- RAD 105 Radiographic Positioning II** **3 Credits**  
 Prerequisites: Successful completion of RAD 103 - Radiographic Positioning I, RAD 104 - X-Ray Clinical Education I, and any other previous radiology course. Correlates all previous material related to anatomy and positioning, covers the areas of lower extremities, spine and thorax, and advances knowledge in ethics and quality assurance.
- RAD 106 X-Ray Clinical Education II** **4 Credits**  
 Prerequisites: RAD 103 - Radiographic Positioning I, RAD 104 - X-Ray Clinical Education I, Concurrent with RAD 105 - Radiographic Positioning II, and all previous required radiology courses. Includes supervised clinical experience, utilizes Category 2 of the competency model, and tests proficiency of skills from Categories 1 and 2.
- RAD 107 Radiation Physics** **3 Credits**  
 Prerequisites: MAT 111 - Intermediate Algebra. Introduces physics as utilized in the production of X-rays. Includes laws of physics pertaining to atomic structure, chemical properties and reactions, and electrical circuitry. Covers equipment and methods of generation and measurement of electricity.
- RAD 108 Radiographic Quality Assurance** **2 Credits**  
 Prerequisites: None. Presents theories and practices pertaining to the establishment of department exposure standards. Includes equipment tests for reliability, problem solving, reject analysis, and cost containment. Provides hands-on experience in processor monitoring, record keeping, and radiographic quality control tests.
- RAD 109 Imaging Techniques** **2 Credits**  
 Prerequisites: Successful completion of any other previous radiology courses. Covers theories, principles, and demonstrations of current imaging modalities.
- RAD 201 Radiographic Positioning III** **2 Credits**  
 Prerequisites: RAD 103 - Radiographic Positioning I, RAD 105 - Radiographic Positioning II, and all other previous radiology courses. This course correlates positioning terminology and techniques, film critique, with exams of Category 2 of the competency models and testing skills from Category 1 and 2.
- RAD 202 X-Ray Clinical Education III** **4 Credits**  
 Prerequisites: RAD 103 - Radiographic Positioning I, RAD 105 - Radiographic Positioning II, RAD 106 - X-Ray Clinical Education II, Concurrent with RAD 201 - Radiographic Positioning III, and all other previous program courses. Introduces Category 3 of the Competency Model, proficiency testing over Categories 1 and 2 and testing over Category 3.
- RAD 203 X-Ray Clinical Education IV** **4 Credits**  
 Prerequisites: RAD 202 - X-Ray Clinical Education III, RAD 201 - Radiographic Positioning III, RAD 106 - X-Ray Clinical Education II, RAD 105 - Radiographic Positioning II, RAD 103 - Radiographic Positioning I, and concurrent with RAD 209 - Radiographic Positioning IV. Introduces Category 4 of the Competency Model in lab proficiency testing of skills from Categories 1, 2, 3 and proficiency in Category 4.
- RAD 204 X-Ray Clinical Education V** **4 Credits**  
 Prerequisites: RAD 203 - X-Ray Clinical Education IV, RAD 201 - Radiographic Positioning III, RAD 106 - X-Ray Clinical Education II, RAD 105 - Radiographic Positioning II, and RAD 103 - Radiographic Positioning I. Includes final competency testing for students who have not completed clinicals 1-4. Continues maintenance over all categories. Includes clinical experience.
- RAD 205 Pathology for Radiologic Technology** **2 Credits**  
 Prerequisites: Successful completion of previous radiology courses. Examines basic concepts concerning disease, its causes and the resulting changes as viewed radiographically. Emphasizes needed technical changes to produce optimal radiographs from correlations to patient symptoms.
- RAD 206 Radiobiology and Radiation Protection** **3 Credits**  
 Prerequisites: Successful completion of previous radiology courses. Covers theories and principles of the effects of ionizing radiation upon living tissues. Includes dosages, measurements, DNA structure, and function and cellular radio sensitivity.

**RAD 208 Principles of Radiographic Exposures II****2 Credits**

Prerequisites: RAD 102 - Principles of Radiographic Exposures I. Continues RAD 102 - Principles of Radiographic Exposure I. Explains photo timing and its relationship to manual techniques. Associates kVp and mAs with the quality and quantity of radiation. Covers standard darkroom procedure, automatic processing, and quality assurance.

**RAD 209 Radiographic Positioning IV****3 Credits**

Prerequisites: RAD 201 - Radiographic Positioning III and all other previous radiology courses. Covers all positions involving radiographic examinations.

**RAD 288 Pharmacology and Routes of Administration for Radiologic Technologists****3 Credits**

Prerequisites: Successful completion of previous radiology courses. Surveys common pharmacologic agents, including emergency drugs, contrast media, measurements, dosages, actions, contraindications, indications, allergic reactions, and routes of administration.

**RAD 299 General Examination Review****3 Credits**

Prerequisites: None. Reviews content of program, emphasizing anatomy, physics, exposure principles, positioning, and radiation safety. Simulated exams prepare the student for the American Registry of Radiologic Technologist Examination.

**RES 121 Introduction to Respiratory Care****6 Credits**

Prerequisites: Program Chair approval; demonstrated competency in reading, writing, computation, and basic science skills through appropriate assessment or successful completion of BSA program coursework. Corequisites: RES 122 - Therapeutic Modalities. Presents an introduction to respiratory care including a brief history of the profession; equipment cleaning and sterilization techniques; patient assessment techniques and isolation techniques. Includes medical records documentation, gas analyzers, introduction and application of therapeutic modalities including oxygen therapy, aerosol and humidity therapy, airway maintenance, hyperinflation therapy, and an overview of ethical practice and safety.

**RES 122 Therapeutic Modalities****3 Credits**

Prerequisites: Program Chair approval; demonstrated competency in reading, writing, computation, and basic science skills through appropriate assessment or successful completion of BSA program coursework. Presents medicinal aerosol therapy and respiratory pharmacology; hyperinflation therapies; introduction to pulmonary rehabilitation and home care. Introduces basic bedside pulmonary function testing and development of respiratory care plans. Presents selected aspects of ethical and legal respiratory practice.

**RES 123 Cardiopulmonary Physiology****3 Credits**

Prerequisites: ANP 101 - Anatomy and Physiology I. Corequisites: ANP 102 - Anatomy and Physiology II. Presents the cardiopulmonary system including ventilation, perfusion and gas exchange; introduces interpretation and application of arterial blood gases, acid-base regulation, and physiologic monitoring.

**RES 124 Clinical Practicum I****3 Credits**

Prerequisites: CPR Certification - Course C AHA, Health Care Provider (HCP) Level. Corequisites: RES 121 - Introduction to Respiratory Care. Introduces the student to the hospital environment. Exposes the student to various hospitals and respiratory care departments, patient charts, patient identification, and communication within the hospital. Provides supervised experience in oxygen therapy, hyperinflation therapy, humidity/aerosol therapy, and charting.

**RES 125 Critical Care I****3 Credits**

Prerequisites: RES 122 - Therapeutic Modalities. Introduction to the respiratory care of the critically ill patient. Presents arterial blood gas collection; analysis and interpretation; and basic medical laboratory data. Introduces concepts and techniques of critical respiratory care of adults and pediatrics; includes establishment and maintenance of artificial airways, application of adult and pediatric mechanical ventilators, and related cardio-pulmonary monitoring equipment.

**RES 126 Clinical Medicine I****3 Credits**

Prerequisites: RES 123 - Cardiopulmonary Physiology. Introduces etiology, symptomatology, diagnosis, therapeutics, and prognosis of selected pulmonary diseases.

**RES 127 Clinical Practicum II****3 Credits**

Prerequisites: RES 121 - Introduction to Respiratory Care, CPR - Certification Course C, and RES 124 - Clinical Practicum I. Provides supervised experience in selected therapeutic modalities. Includes an introduction to chest physiotherapy, medicinal aerosol therapy, intermittent positive pressure breathing, and ultrasonic therapy. Requires continuing certification in CPR.

**RES 128 Clinical Practicum III****9 Credits**

Prerequisites: RES 125 - Critical Care I, CPR Certification - HCP Level, RES 126 - Clinical Medicine I, RES 127 - Clinical Practicum II. Provides additional supervised experience in selected therapeutic modalities. Includes advanced patient assessment, arterial blood gas analysis, and airway care. Provides clinical experience in adult critical care with mechanical ventilation. Includes an introduction to basic cardiopulmonary testing. Requires continued Certification in CPR.

**RES 221 Cardiopulmonary Diagnostics****3 Credits**

Prerequisites: RES 125 - Critical Care I and RES 126 - Clinical Medicine I. Presents in-depth approaches to the respiratory care management of critically ill neonatal, pediatric, and adult patients. Emphasizes techniques of patient evaluation, cardiopulmonary monitoring, transportation, and management. Includes advanced techniques of patient assessment through pulmonary function testing and other selected assessment techniques.

**RES 222 Critical Care II****3 Credits**

Prerequisites: RES 125 - Critical Care I and RES 126 - Clinical Medicine I. Presents advanced techniques of mechanical ventilation of neonatal, pediatric and adult patients; includes fetal development and assessment; neonatal and pediatric assessment, equipment, procedures and therapeutic techniques; and introduces related aspects of the NICU environment.

**RES 223 Respiratory Pharmacology****3 Credits**

Prerequisites: ANP 101 - Anatomy and Physiology I and ANP 102 - Anatomy and Physiology II. Discusses the most common pharmacological agents currently being administered to all body systems. Emphasizes classifications, indications, side effects, dosages and routes of administration. Discusses emergency drugs, antibacterial medication, antifungal medications, and the implications and complications of IV therapy.

**RES 224 Clinical Medicine II****3 Credits**

Prerequisites: RES 221 - Cardiopulmonary Diagnostics. Presents etiology, symptomatology, diagnosis, therapeutics and prognosis of disease conditions related to respiratory care; focuses on the interrelation of all physiologic systems. Emphasizes treatment protocols and includes preparation for clinical simulation component of national credentialing examination.

**RES 225 Emergency Management****1 Credit**

Prerequisites: CPR Certification - HPC Level. Applies advanced cardiopulmonary life support efforts in an emergency setting.

**RES 226 Continuing Care****2 Credits**

Corequisites: RES 227 - Clinical Practicum IV. Presents a brief history of home care patients in relation to respiratory care modalities. Provides an overview of respiratory care roles in the alternative care sites.

**RES 227 Clinical Practicum IV****6 Credits**

Prerequisites: CPR Certification - Course C and RES 128 - Clinical Practicum III. Provides additional supervised experience in selected therapeutic modalities. Includes advanced cardiopulmonary diagnostic techniques, application of invasive and non-invasive monitoring of the cardiopulmonary system, and experience in respiratory care, departmental management, and quality assurance roles. Includes advanced clinical experience in adult, pediatric, and neonatal critical care. Requires continuing certification in CPR.

**RES 228 Information Systems for Health Care****1 Credit**

Prerequisites: Program Chair approval. Presents an introduction to computer technology and its uses in the health care setting.

**SPC 103 Employee Participation Techniques and Quality Improvements****3 Credits**

Prerequisites: None. Provides an overview of the development of an employee involvement program such as quality circles, teams, groups, and other concepts. Includes problem-solving techniques of brainstorming, cause and effect diagrams, data gathering, check sheets, Pareto analysis, central location, frequency distribution, and histograms. Covers the role of management and employees in the process and their relationship to participative management.

<b>SPC 104 Introduction to Non-Destructive Testing</b>	<b>2 Credits</b>
Prerequisites: None. Acquaints students with the principles and various types of non-destructive examination methods, their advantages, limitations, and applications.	
<b>SPC 105 Non-Destructive Testing Applications I</b>	<b>3 Credits</b>
Prerequisites: QSC 101 - Quality Control Concepts and Techniques I. Presents an overview of the relationship of non-destructive testing to the total quality function. Includes advantages and limitations of various test methods.	
<b>SPC 106 Non-Destructive Testing Applications II</b>	<b>3 Credits</b>
Prerequisites: SPC 105 - Non-Destructive Testing Applications I. Covers theoretical and practical aspects of non-destructive testing in radiography, eddy current testing, acoustic emission, and leak testing.	
<b>SPC 108 Quality Control Engineering Principles and Technologies</b>	<b>3 Credits</b>
Prerequisites: advisor approval. Presents principles and techniques of modern quality control engineering with attention to management, engineering, economic, and production factors. Emphasizes the assurance of quality at the hardware, processing, and system levels.	
<b>SPC 109 Engineering Materials</b>	<b>3 Credits</b>
Prerequisites: advisor approval. Includes the basic principles of metallurgy and the properties of materials in the section of parts and manufacturing processes. Explores the ways in which the strength and hardness of metals can be altered by heating and cooling. Examines ceramics, composites, polymers, and other exotic metals.	
<b>SPC 110 Quality Control Engineering Theory and Application</b>	<b>3 Credits</b>
Prerequisites: advisor approval. Presents current theory and applications of quality engineering for assurance and verification of product quality at the hardware, processing, and system levels. Emphasizes statistical analysis, laboratory experiments and tests, and case problem-solving applications.	
<b>SPC 111 Reliability Objectives</b>	<b>3 Credits</b>
Prerequisites: QSC 101 - Quality Control Concepts and Techniques I, QSC 202 - Quality Control Concepts and Techniques II. Introduces the development and principles of reliability engineering. Establishes the mathematical and physical bases of reliability and applies the basic elements of reliability data analysis. Surveys concepts basic to modern reliability requirements with emphasis on practical applications in manufacturing processes and production operations.	
<b>SPC 112 Reliability Techniques</b>	<b>3 Credits</b>
Prerequisites: SPC 111 - Reliability Objectives. Studies reliability techniques and applications designed to obtain or improve reliability analysis.	
<b>SPC 201 Analysis of Metallurgical Failure</b>	<b>3 Credits</b>
Prerequisites: SPC 109 - Engineering Materials. Studies the factors responsible for the failure of components or structures, which may be motivated by either sound engineering practice or by legal considerations. Covers the proper application of failure analysis techniques to provide valuable feedback to design problems and materials limitations.	
<b>SPC 202 Process Control Gauging and Measurements</b>	<b>3 Credits</b>
Prerequisites: advisor approval. Employs the science of measurement for obtaining accurate and reliable data using computerized statistical process control and mechanical metrology. Includes selection of various instruments for specific applications.	
<b>SPC 203 Codes, Specifications and Procedures Interpretations</b>	<b>3 Credits</b>
Prerequisites: advisor approval. Explores the different types of codes, specifications, and procedures used in modern industry and provides opportunity for use and interpretation. Includes blueprint reading.	
<b>SPC 204 Statistical Concepts and Techniques</b>	<b>3 Credits</b>
Prerequisites: MAT 115 - Statistics. Presents various topics pertaining to statistical applications of quality control including frequency distribution, probability theory and application, and sampling techniques.	



<b>SPC 205 Non-Destructive Testing</b>	<b>3 Credits</b>
Prerequisites: None. Presents an overview of the relationship of nondestructive testing to the total quality function. Emphasizes the advantages and limitations of various test methods.	
<b>SPC 206 Mechanical Metrology</b>	<b>3 Credits</b>
Prerequisites: None. Provides instruction and laboratory experiments in the use of mechanical testing and measurement equipment for quality control.	
<b>SPC 207 Electrical Metrology</b>	<b>3 Credits</b>
Prerequisites: MAT 115 - Statistics, MAT 121 - Geometry-Trigonometry. Offers instruction and laboratory experiment in the use of electrical testing and measurement equipment for quality control.	
<b>SUR 101 Surgical Techniques</b>	<b>3 Credits</b>
Prerequisites: Admission to clinical phase of surgical program. Corequisites: SUR 102 - Surgical Procedures I and SUR 103 - Fundamentals of Surgical Technology. Introduces principles of sterile techniques and the operative care of the surgical patient. Includes the roles of scrubbing and circulating duties.	
<b>SUR 102 Surgical Procedures I</b>	<b>3 Credits</b>
Prerequisites: Admission to clinical phase of surgical program. Corequisites: SUR 102 - Surgical Procedures I and SUR 103 - Fundamentals of Surgical Technology. Provides orientation to the role of a surgical technologist. Introduces the surgical facility, aseptic technique, and basic surgical procedures with review of total patient care, including pre-operative care, diagnostic test, and immediate post-operative care.	
<b>SUR 103 Fundamentals of Surgical Technology</b>	<b>6 Credits</b>
Prerequisites: Admission to clinical phase of surgical program. Corequisites: SUR 101 - Surgical Techniques and SUR 102 - Surgical Procedures I. Demonstrate and supervises practice of general surgical procedures. Correlates theory to clinical by requiring students to actively participate as members of the surgical team. Includes laboratory and clinical experiences.	
<b>SUR 104 Surgical Procedures II</b>	<b>6 Credits</b>
Prerequisites: SUR 101 - Surgical Techniques, SUR 102 - Surgical Procedures I, and SUR 103 - Fundamentals of Surgical Technology. Corequisites: SUR 105 - Clinical Applications I. Studies advanced surgical procedures in relation to the total physiological aspects of surgical intervention. Includes a knowledge of the involved anatomy, existing pathology, surgical hazards encountered, the surgical procedure, and a review of total patient care.	
<b>SUR 105 Clinical Applications I</b>	<b>9 Credits</b>
Prerequisites: SUR 101 - Surgical Techniques, SUR 102 - Surgical Procedures I, and SUR 103 - Fundamentals of Surgical Technology. Correlates basic principles and theories of advanced surgical procedures to clinical performance in affiliating hospitals. Includes knowledge, skills, and attitudes necessary for successful implementation of safe patient care in an operating room.	
<b>SUR 106 Surgical Procedures III</b>	<b>3 Credits</b>
Prerequisites: SUR 104 - Surgical Procedures II and SUR 105 - Clinical Applications I. Corequisites: SUR 107 - Clinical Applications II. Studies specialized surgical procedures. Includes a knowledge of the involved anatomy, existing pathology, surgical hazards encountered, the surgical procedure, and a review of total patient care.	
<b>SUR 107 Clinical Applications II</b>	<b>8 Credits</b>
Prerequisites: SUR 104 - Surgical Procedures II and SUR 105 - Clinical Applications I. Corequisites: SUR 106 - Surgical Procedures III. Correlates principles and theories of specialized surgical procedures to the clinical performance in affiliating hospitals. Includes the knowledge, skills, and attitudes necessary for successful implementation of safe patient care in an operating room.	
<b>TEC 101 Manufacturing Processes</b>	<b>3 Credits</b>
Prerequisites: None. Provides a basic survey of manufacturing processes, tools and equipment used by modern industry to convert bars, forgings, castings, plates, and sheet materials into finished products. Includes basic mechanics of materials removal and forming, metrology, quality control, and safety of operations. Introduces non-traditional manufacturing techniques.	



<b>TEC 102 Technical Graphics</b>	<b>3 Credits</b>
Prerequisites: None. Strengthens basic drafting skills to a proficient, technician level. Includes orthographic projections with auxiliary views, dimensioning, sectioning, and introductory tolerancing. Studies isometric and oblique views of parts.	
<b>TEC 103 Collaborative Team Skills</b>	<b>1 Credit</b>
Prerequisites or Prerequisites: PSY 101 - Introduction to Psychology, SOC 111 - Introduction to Sociology or consent of instructor. Introduces students to effective communication skills, conflict resolution, team collaboration, and decision making.	
<b>TEC 104 Computer Fundamentals for Technology</b>	<b>3 Credits</b>
Prerequisites: None. Provides an introduction to microcomputer hardware, applications, and software. Emphasizes computer literacy, disk operating systems (DOS), computer programming, and industrial orientation. Surveys commonly used microcomputer applications.	
<b>TEC 106 Hazardous Materials and Control</b>	<b>3 Credits</b>
Prerequisites: None. Introduces hazardous materials, managing hazardous material incidents, explosive and gas emergencies, shipping containers, cylinder safety devices, responding to flammable and combustible liquids, oxidizers, poisons and corrosives, and radioactive emergencies. Emphasizes chemical identification, marking, storage, shipping and handling hazardous substances. Uses basic monitoring instruments for hazardous areas to protect workers and first responders. Covers protective clothing and equipment. Emphasizes safety procedures and practices.	
<b>TEC 113 Basic Electricity</b>	<b>3 Credits</b>
Prerequisites: MAT 050 - Basic Algebra or demonstrated competency. Studies electrical laws and principles pertaining to DC and AC circuits. Includes current, voltage, resistance, power, inductance, capacitance, and transformers. Stresses the use of standard electrical tests, electrical equipment, and troubleshooting procedures. Safety procedures and practices are emphasized.	
<b>VIS 101 Fundamentals of Design</b>	<b>3 Credits</b>
Prerequisites: None. Investigates design theory and color dynamics as applied to organizing the visual field. Provides experiences in applying design theory.	
<b>VIS 102 Fundamentals of Imaging</b>	<b>3 Credits</b>
Prerequisites: VIS 115 - Computer Graphics and VIS 101 - Fundamentals of Design. Introduces students to a full range of image input technology including conventional 35mm photography, still video capture, video camcorder, and computer scanners.	
<b>VIS 103 Introduction to Multi-Media</b>	<b>3 Credits</b>
Prerequisites: Advanced standing with advisor approval. Explores various software programs involved in creating multi-media presentations, digital movies, digital animation, and analog video output.	
<b>VIS 105 Video and Sound</b>	<b>3 Credits</b>
Prerequisites: None. Serves as a comprehensive course for camcorder owners as well as an introductory course for video majors. Students plan, shoot, and post-produce videotapes which inform, instruct, and change attitudes. Project work includes exercises in lighting, miking, audio dubbing, incamera editing, and video graphics.	
<b>VIS 115 Computer Graphics</b>	<b>3 Credits</b>
Prerequisites: None. Introduces students to the computer's use in graphic design. Focuses on basic computer terminology and use, mastering fundamental skills, and developing efficient working styles. Develops skills by creating publications with page layout software.	
<b>VIS 201 Electronic Imaging</b>	<b>3 Credits</b>
Prerequisites: VIS 115 - Computer Graphics. Examines the area of still video photography and various electronic darkroom software packages. Provides experience with the electronic darkroom environment including editing processes, manipulation of images in black and white and color, and working with various output devices. Discusses four-color separations and pre-press procedures.	

<b>VIS 202 Color Prepress</b> Prerequisites: VIS 201 - Electronic Imaging. Examines the technical specifications, translation issues, various output options, and trouble shooting of graphic files for high end printing processes. Studies and compares the roles of electronic production artists, of service bureaus, and of printing technologies.	<b>3 Credits</b>
<b>VIS 205 Business Practices for Visual Artists</b> Prerequisites: ART 217 - Advanced Graphic Design. Examines legal and business issues affecting the professional visual artist. Examines copyright and "work for hire", marketing and self-promotion, estimating and pricing, insurance and liability, and the computer's role in managing a business.	<b>3 Credits</b>
<b>VIS 206 Interdisciplinary Studies</b> Prerequisites: None. Offers students opportunities to complete selected projects while working in a team environment with students of other disciplines. Simulates situations found in industry.	<b>3 Credits</b>
<b>VIS 207 Portfolio Preparation</b> Prerequisites: Essentially all required program courses. Focuses on student's final preparation for the job interview. Finalizes project work demonstrating acquired knowledge and skills, along with resume and cover letter, for presentation to prospective employers. Provides students with the opportunity to use one credit for field study.	<b>3 Credits</b>
<b>VIS 209 3D Rendering and Animation</b> Prerequisites: None. Examines the virtual world of 3D and how it can be applied as an illustration and animation element in multimedia. Students will explore navigation, modeling, rendering, animation, and camera and lighting techniques.	<b>3 Credits</b>
<b>VIS 281-293 Special Topics in Visual Communications Technology</b> Prerequisites: None. Provides students with the opportunity to experience seminars, workshops, and other instructional activities on topics of interest that reinforce the concepts presented in their program area (Contact chief academic officer for more information).	<b>1-5 Credits</b>
<b>WLD 100 Welding Processes</b> Prerequisites: None. Provides general study of oxy-fuel, shielded metal arc, gas tungsten arc, gas metal arc, submerged arc, plasma arc, resistance, flash and upset, friction, electron beam, and laser welding processes. Covers equipment, techniques, electrodes, fuel gases and/or shielding gases, weld joint design, advantages and limitations, process applications, process variables, and operational costs.	<b>3 Credits</b>
<b>WLD 101 Gas Welding I</b> Prerequisites: None. Introduces basic oxy-acetylene brazing. Involves detailed study of the techniques of making welds in flat positions. Includes gas brazing. Provides additional background essential to a qualified welder.	<b>3 Credits</b>
<b>WLD 103 Arc Welding I</b> Prerequisites: None. Covers the welding of ferrous metals and alloys utilizing metallic manual arc welding methods. Includes procedures in joint design using "T" joint, lap joint and butt joint designs. Covers single pass and multi-pass techniques. Emphasizes safety hazards and safe practices in arc welding.	<b>3 Credits</b>
<b>WLD 105 Welding Equipment and Electrical Maintenance</b> Prerequisites: None. Focuses on the design of oxy-fuel welding and cutting equipment and electric arc welding and cutting equipment. Enables students to perform troubleshooting on the equipment and apply proper maintenance. Examines relationships of voltage, current and resistance on electrical circuits with emphasis on the production of heat from the flow of electric current through resistance.	<b>3 Credits</b>
<b>WLD 107 Welding Troubleshooting</b> Prerequisites: None. Covers evaluation of weldments, welding procedures and tolerances, and joint design and alignment.	<b>3 Credits</b>
<b>WLD 108 Shielded Metal Arc Welding I</b> Prerequisites: None. Provides students with knowledge of shielded metal arc welding operations and equipment. Provides extensive practice time to produce the skills to make satisfactory welds with this process. Emphasizes safety hazards and safety practices in arc welding.	<b>3 Credits</b>

**WLD 109 Oxy-Acetylene Gas Welding and Cutting****3 Credits**

Prerequisites: None. Offers basic instruction in oxy-acetylene welding with emphasis on welding techniques in flat, horizontal, vertical and overhead positions. Includes brazing and flame cutting. Focuses on safety hazards and safe practices in oxy-acetylene welding and cutting.

**WLD 110 Welding Fabrication I****3 Credits**

Prerequisites: WLD 108 - Shielded Metal Arc Welding I, WLD 109 - Oxy-Acetylene Gas Welding and Cutting, WLD 207 - Gas Metal Arc (MIG) Welding. Provides opportunities for practice in hands-on fabrication of welded products. Includes basic equipment used in fabrication.

**WLD 115 Shop Practices I****3 Credits**

Prerequisites: None. Provides use of shop to practice various types of welding to improve operator skill.

**WLD 116 Shop Practices II****3 Credits**

Prerequisites: WLD 115 - Shop Practices I. Continues open use of shop to practice various types of welding to improve operator skills.

**WLD 117 Shop Practices III****3 Credits**

Prerequisites: WLD 116 - Shop Practices II. Continues open use of shop to practice various types of welding to improve operator skills.

**WLD 120 Metallurgy Fundamentals****3 Credits**

Prerequisites: None. Studies properties and uses of ferrous and nonferrous metals and alloys, production of iron and steel, composition and properties of plain carbon steel and alloying elements, selection of tools, case hardening and destructive and nondestructive testing. Includes fundamentals of heat treatment and reactions occurring in metals subjected to various heat treatment methods and techniques.

**WLD 201 Special Welding Processes****3 Credits**

Prerequisites: advisor approval. Welding practice with various welding processes and techniques using advanced welding methods, machines, and equipment. Presents advanced arc welding with emphasis on use and orientation of submerged arc welding equipment.

**WLD 202 Arc Welding II****3 Credits**

Prerequisites: WLD 103 - Arc Welding I. Offers instruction in electrode selections, weld techniques, power supplies, and current characteristics in preparation for test.

**WLD 203 Pipe Welding I****3 Credits**

Prerequisites: WLD 108 - Shielded Metal Arc Welding I, WLD 206 - Shielded Metal Arc Welding II. Provides for extensive practice in the preparation and welding of pipe in the 2G and 5G position. Includes preparation, methods of welding, electrodes, and filler wires.

**WLD 204 Pipe Welding II****3 Credits**

Prerequisites: WLD 203 - Pipe Welding I. Provides extensive training in the preparation and welding of pipe in the 5G and 6G position. Includes information on preparation, method of welding, and electrodes and filler wires used.

**WLD 205 Welding Codes, Specifications and Estimating****3 Credits**

Prerequisites: advisor approval. Provides students with different types of welding codes and testing operations. Covers procedures, specifications, and information about filler materials, positions, post-heat and pre-heat treatment, backing strips, preparations of parent metals, cleaning, and defects. Includes AWS and ASME code.

**WLD 206 Shielded Metal Arc Welding II****3 Credits**

Prerequisites: WLD 108 - Shielded Metal Arc Welding I. Covers SMAW welding equipment and products used to produce groove type butt welds. Provides extensive practice to develop the skills to achieve satisfactory welds of this type. Safety hazards and safe practices in arc welding are emphasized.

**WLD 207 Gas Metal Arc (MIG) Welding****3 Credits**

Prerequisites: None. Considers various gas metal arc welding (GMAW) processes including microwire, flux-core, innershield and submerged arc with emphasis on metal inert gas welding. Includes techniques of welding in all positions on various thicknesses of metal.

**WLD 208 Gas Tungsten Arc (TIG) Welding****3 Credits**

Prerequisites: WLD 109 - Oxy-Acetylene Gas Welding and Cutting. Provides students with thorough knowledge of the gas tungsten arc welding process. Includes detailed study of the techniques of making welds in all positions using the GTAW applications. Lectures and discussions provide additional background information essential to a qualified GTAW welder.

**WLD 209 Welding Certification****3 Credits**

Prerequisites: Program chair approval. Prepares the student for certification in shielded arc, TIG, and MIG welding through study of the qualifications, procedures, and equipment standards. Includes a survey of qualifying agencies, associations, and societies.

**WLD 210 Welding Fabrication II****3 Credits**

Prerequisites: WLD 110 - Welding Fabrication I. Provides for practice in hands-on fabrication and the use of related equipment.

# Notes



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